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ABSTRACT

This feasibility study was conducted to collect financial, operational, and other data concerning the alternatives of continuing with the University of Toronto Library Automation System (UTLAS), the present supplier of catalog support to the British Columbia Union Catalogue (BCUC) participating libraries, or of replicating the Washington Library Network (WLN) system. Specifically, the study examined the economic feasibility of replicating the WLN system; produced a comparative feature analysis of WLN and UTLAS; produced cost projections for both systems; provided comprehensive data on the best systems for meeting anticipated needs for support of other functions including acquisitions, serials, circulation, and public access; provided recommendations on the alternatives; and provided recommendations on the next steps to be considered. Tables display the data gathered. An additional paper, "BCUC Governance and Management: A Background Paper for the BCUC Replication Study," by Paul E. Baldwin, is included. (Author/FM)

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Ministry of Education (JEM Projects)
Library Needs Assessment
BCUC Replication Study Document
Definition Document

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BRITISH COLUMBIA LIBRARY NETWORK

A Study of Feasibility

by

Dr. Ralph M. Shoffner

Mary A. Madden

With an additional report:

BCUC GOVERNANCE AND MANAGEMENT

A Background Paper for the BCUC Replication Study

by

Paul E. Baldwin

Director, BCUC

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31 January, 1980

Richmond, B.C., British Columbia Union Catalogue

IR009234

BRITISH COLUMBIA LIBRARY NETWORK: A STUDY OF FEASIBILITY - 02/80

The following is a Discussion Paper which has evolved from a project funded by the Ministry of Education and assisted by Joint Educational Management Projects.

Its purpose is to obtain reaction to the ideas presented.

We encourage you to complete, detach and mail this form to:
Paul E. Baldwin, Director, B.C. Union Catalogue, 7671 Alderbridge Way, Richmond, B.C. V6X 1Z9. (273-9521).

ACKNOWLEDGEMENTS

We would like to acknowledge first and foremost the B.C. Ministry of Education for providing funding for this study. Second, we were favorably impressed by the continuing aid and support provided by the Joint Educational Management (JEM) Projects through the good offices of John Chapman. The BCUC Replication Study Project Manager, Paul E. Baldwin, did an excellent job of directing our efforts and providing specific assistance needed to successfully complete this phase of the study. The people on the JEM Project Review Committee and the BCUC Management and Operations Committees gave generous amounts of their time to the study, its approach, and results.

We are indebted to many people for their help in this project. The BCUC staff have been of invaluable assistance collecting information, searching data bases, calling participating libraries, and preparing the initial data reduction. While everyone was helpful, Marie McKee and Leigh Swain in particular provided necessary assistance and support.

UTLAS staff provided prompt and valuable information. Harriet Velazquez, our primary source from UTLAS, was cordial and cooperative. WLN staff also provided prompt and valuable information. Ray DeBuse and others of WLN were available and helpful. Chris Hannan of the National Library of Australia was most considerate in responding quickly and completely to our inquiries on their replication experience with the WLN software.

The staff of the libraries who took the time to participate in the study either by completing a questionnaire, a log, or by collecting a sample are gratefully appreciated. That information was essential to the results of the study. And the knowledge and direction provided by Paul Baldwin has been critical to the successful completion of this project.

While we have been dependent upon all of these people for their

assistance, we remain responsible for any errors of fact or of interpretation.

Dr. Ralph M. Shoffner

Mary A. Madden

RINGGOLD MANAGEMENT SYSTEMS
A Division of the Ringgold Corporation
Box 368
Beaverton, Oregon 97075
(503) 645-3502

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With an additional paper (Appendix D):
BCUC Governance and Management: A Background Paper for the BCUC Replication Study. Prepared by Paul E. Baldwin, Director, BCUC.

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I INTRODUCTION AND SUMMARY

A. PURPOSE

The feasibility substudy is one of several such studies for the BCUC Replication study. The purpose is to collect financial, operational and other data concerning the alternatives of continuing with UTLAS, the present supplier of catalogue support to the BCUC participating libraries, and of replicating the Washington Library Network system and data base.

B. SCOPE

The scope of the substudy was specifically defined as:

- examine the economic feasibility of replicating the WLN system;
- produce a comparative feature analysis of WLN and UTLAS-CATSS;
- produce a cost projection for WLN and the UTLAS system;
- provide comprehensive data on the best systems for meeting anticipated needs for support of other functions including acquisitions, serials, circulation and public access;
- provide recommendations on the alternatives, recognizing the above factors and other considerations for deciding on continuing with UTLAS or replicating the WLN system; and
- provide recommendations on the next steps to be considered.

C. APPROACH

This work was carried out using the project control procedures and resources of the Joint Educational Management Projects (JEM). Under the JEM control structure, this work constitutes the Feasibility Substudy within the BCUC Replication Study Project.

In order to gather the information necessary to the objectives of this substudy, we divided our approach into four main lines of effort:

1. Comparison of the costs of UTLAS services to the BCUC libraries with the costs of comparable services from a facility that would be based upon a replication of the WLN system. This work consisted of:
    - a. Calculating the total costs of current UTLAS services, and projecting these costs (in constant 1979 dollars) for cataloguing services comparable to those of WLN and for an expanded BCUC membership expected in 1980;
    - b. Determining the computer and communications system required to support the WLN system and estimating the cost of operating this system on an independent basis;
    - c. Defining the staffing and cost that would be required on the part of BCUC in order to operate the system, including all of the network staff needed to provide support to the member libraries and to maintain the quality of the cataloguing information contained in the system;
    - d. Defining the effort and cost that would be required to set up the BCUC organization, the computing system,

etc., and make it ready to provide services to the BCUC member libraries on a full operational basis in replacement of current UTLAS services;

e. Amortizing the costs of setting up the replicated system over the anticipated life of the facility (five years for equipment and ten years for the rest) at a commercial rate of interest (14%); and finally,

f. Comparing the annual costs of UTLAS and the amortized annual operating costs of a replicated WLN facility under conditions of providing (reasonably) comparable services to comparable groups of member libraries, using constant 1979 dollars.

2. Comparison of the operating features of the two systems. This consisted of collecting information about the operating features of the two systems, operated by UTLAS and WLN; analysing this information and the assigning relative weights to these features in order to arrive at an overall point score for each system. The maximum value to be assigned to each feature was provided by BCUC and reflects their assessment of the relative importance of these features to the libraries of British Columbia.

3. Comparison of the availability of cataloguing information and staff usage time requirements of the two systems. This consisted of obtaining random samples from the BCUC libraries of the materials for which cataloguing was needed; searching the two systems for this cataloguing information; recording the nature of the search results and the searching time; and, providing a statistical analysis of the results.

4. Comparison of the attitudes of the users toward the two systems. This consisted of sending a written questionnaire

to all the BCUC member libraries using UTLAS and to a sample of the libraries using the WLN system; analysing and summarizing the responses to the questionnaire. These responses were not subjected to statistical analysis. The number of respondents and the total number of users are both quite small, many of the questions deal with attitudes and qualitative reactions; therefore, the use of the results was principally as a crosscheck on the information gathered directly from the UTLAS and WLN organizations and from the tests.

D. PRINCIPAL RESULTS

1. Economic Feasibility of Replication.

It is economically feasible to replicate the Washington Library Network system and data base, given the previously planned expansion of cataloguing services to include authority control and the expected expansion of BCUC membership in 1980/81. Should the province decide to replicate, a choice is available - whether to replicate the system in support of cataloguing services only (comparable to the service from UTLAS), or to expand the bibliographic services to include support of acquisitions and interlibrary loan. The costs for these two options are as follows.

a. Cataloguing service only.

Scope: Cataloguing with authority control

Libraries: Expected 1980/81 membership

The annual costs for

UTLAS	$2,230,000
WLN (replicated)	2,080,000
Difference	$ 150,000 less

b. All available WLN support.

Scope: Cataloguing with authority control, acquisitions, interlibrary loan

Libraries: Expected 1980/81 membership

The annual costs for

UTLAS	acquisitions not available
WLN (replicated)	$2,480,000

2. Initial Costs of Replication.

Under the JEM control structure, the replication would take place in two phases, Design and Implementation. The costs for these phases, divided into six month periods, are:

a.	First six months,	Design	$ 200,000
b.	Second " " ,	Implementation	494,000
c.	Third " " ,	"	659,000
d.	Fourth " " ,	"	870,000
		Total	$2,223,000
		Rounded to	$2,200,000

These costs were amortized and included in the annual cost comparison given above.

3. Features Comparison.

Using a point system, the WLN system received 11% more points than did UTLAS. The most important difference is that the WLN system has an acquisitions control component, while UTLAS' is in the design stage. Search time and the time to input original cataloguing takes approximately twice as long on UTLAS as on WLN. The availability of cataloguing records is approximately the same. Though it is higher for UTLAS for the universities' retrospective files, the find rate of 51% indicates that other available solutions are likely to be significantly better. Overall, the WLN system is better than the UTLAS system; however, both will require continuing development. Funding of a modest level of development effort was included in the annual costs of the replicated facility.

4. Overall Recommendations.

a. Establish a British Columbia Library Network (BCLN) and a supporting bibliographic utility to provide services to all of the libraries of British Columbia.

Compared with UTLAS services, the BCLN will be economically viable if it is established as a provincial facility serving libraries beyond the current BCUC membership.

b. Provide the full range of computer based library services.

Although restricting the service to cataloguing only would provide a cost avoidance of $150,000 per year for equivalent services, an additional expenditure of $400,000 per year will provide support to acquisitions and interlibrary loan as well. When two years and $2,200,000 are to be invested in the replication, it is desirable to establish the maximum range of services in order to remain viable in the competition among the utilities.

c. Select the most effective set of existing computer programs for the development of the bibliographic utility.

This study has demonstrated that replication is feasible; the study scope did not include selection of the most effective set of computer programs.

d. Base the development of BCLN on the existing British Columbia Union Catalogue.

BCUC's track record of successful introduction of automated service and cooperative programs to B. C. libraries makes it an ideal candidate for the development.

e. Within the JEM control structure, proceed to the Design Phase of the Replication Project.

The JEM system is organized to improve the control of complex development projects. This structure can be used to advantage in assuring that all relevant issues are addressed and that the project is performed successfully.

f. Within the JEM control structure, follow the successful completion of the Design Phase with the Implementation Phase of the project.

Because the Design Phase is but six months duration, it will be important to begin planning immediately for the funding of the Implementation Phase in order to maintain the momentum of the project.

g. During the Design and Implementation Phases, continue to work with UTLAS to maintain and improve the delivery of existing services to the BCUC libraries.

Two years will be required to design and implement the BCLN bibliographic utility. During that period, the BCUC libraries should continue to receive the best possible service.

h. Should the decision be made to continue with current UTLAS services indefinitely, establish a project to define the future of BCUC.

Its initial organization as a project and its present structure may be suitable only as a temporary operation. It will be desirable to define what, if any, on-going roles are desirable and what structure is appropriate.

II. CONTEXT OF THE PROJECT

A. THE PROVINCE

In 1976 British Columbia's population was 2,466,608.* This represented a growth of 12.9% between 1971 and 1976. The Canadian national average population increase was 6.6% for the same period. The most rapid growth has been in the following regions: Okanagan, Cariboo, Ft. George and Lillooeet-Thompson. The B.C. Index for 1978 states that the Province of BC has consistently led the nation in growth of population and industry.

The population is concentrated heavily in the southwestern corner of the province. The Vancouver-Victoria area has 56% of the province's population. The Lower Mainland comprising the Fraser Valley Region and environs has 53% of the province's population and 2.9% of the province land area.

The libraries of the province are also heavily concentrated in the southwestern region. Figure 1 shows the distribution of the libraries. Approximately 71% of the libraries are in the Vancouver-Victoria area. Figure 2 shows the distribution of book form holdings.

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* British Columbia. Minstry of Economic Development. British Columbia regional index. 1978

FIGURE 1

DISTRIBUTION OF LIBRARIES IN BRITISH COLUMBIA

Type of Library	Lower Mainland	City of Victoria	Other B.C. Locations	Total
Academic	13	2	9	23
Public Libraries	11	2	44	57
Special Libraries	105	12	7	124
Total	129	16	60	205

Source: Focus; A Directory of Library Services in British Columbia; (n.p.) Douglas College, Greater Vancouver Library Federation, (1977), 78p.

FIGURE 2

DISTRIBUTION OF BOOK HOLDINGS

Type of Library	Lower Mainland	City of Victoria	Other B.C. Locations	Total
College and Institute	402,500	32,000	245,700	680,200
University	5,516,800	750,000	-	6,266,800
Public	1,884,500	491,600	2,156,000	4,532,100
Total	7,803,800	1,273,600	2,401,700	11,479,400
Percent of Total Holdings	68%	11%	21%	

Source: Focus; A Directory of Library Services in British Columbia; (n.p.) Douglas College, Greater Vancouver Library Federation, (1977), 78p.

It has been the aim of the Ministry of Education to extend educational opportunity to citizens everywhere in the province. To this end specific legislation was enacted to provide for post-secondary institutions other than universities. Fourteen colleges and five provincial institutes have been created, most recently among them the Open Learning Institute. The purpose of this Institute is to offer distance education programmes leading to university level degrees, vocational and technical certificates and high school diplomas.

Inherent in fulfilling this aim is an expansion in support services for post-secondary education. Figure 3 illustrates the growth in post-secondary education over the last decade. All types of post-secondary education have increased, most notably the academic, college, and institute programmes. Library support services must grow at a similar pace and expand to provide more cooperative services.

	Universities	Academic	College & Institutes	Vocational	Total
1967/68	30,537	3,468	3,930	28,393	66,328
1968/69	33,695	5,278	4,963	31,392	75,328
1969/70	35,147	6,093	5,619	35,724	82,583
1970/71	34,954	8,764	7,754	45,159	96,631
1971/72	33,226	9,778	9,663	47,557	100,224
1972/73	32,506	9,004	11,055	53,028	105,593
1973/74	35,078	10,668	13,862	57,871	117,479
1974/75	38,136	14,488	15,129	68,187	135,940
1975/76	40,926	17,157	15,668	63,718	137,469
1976/77	41,867	18,302	18,087	67,564	145,820
1977/78	41,892	20,161	20,086	75,966	158,105
	37%	481%	411%	168%	138%

Source: Universities; Universities Council of British Columbia, Data reported as of December 1, except for SFU; For SFU data reported as of October 1. Colleges and Institutes; Academic/Technical areas: College Statistical Reports. Data reported as of October 1. Colleges and Institutes, Vocational area: TV-27A.

FIGURE 3

Summary of Credit Enrollments at B.C. Post-Secondary Institutions by Institution Type, Major Program Area 1967/68 to 1977/78

B. BIBLIOGRAPHIC UTILITIES AND NETWORKS

The automation efforts of the last two decades have resulted in the existence of numerous bibliographic utilities and networks which are providing computer based cataloguing support to libraries in Canada, the United States and Europe. A bibliographic utility operates a computer system and maintains a large scale data base to support cataloguing and other library processes. The data base is composed of the cataloguing that is produced and distributed by the MARC Distribution Services of the Library of Congress and the National Library of Canada (now in excess of one million records) plus the cataloguing contributed by the libraries using the utility. A library network is a group of libraries that have organized themselves to obtain a set of common services or to carry out joint activities of benefit to the group. In general, the networks are providing their memberships with instruction and support in the manual procedures associated with the use of the bibliographic utilities. Thus, the bibliographic utilities are concerned with the facility to provide the computer based services - the personnel and the computer system composed of equipment, programs and data base. The networks are concerned with the use of the bibliographic utility and the integration of its services into the operations of the member libraries.

Although originally organized as a project, the British Columbia Union Catalogue (BCUC) is functioning as a network. It has organized the provision of cataloguing services to its member libraries, utilizing the bibliographic utility operated by the University of Toronto Library Automation Services (UTLAS). Also, the cooperative Shared Authorities Files (SHARAF) activity is organized under BCUC as another network activity. In contemplating the transfer of the computer system operated by the Washington Library Network (WLN), BCUC is considering expanding its operation to become a bibliographic utility to complement its current network activities. The transfer would consist of the WLN computer programs and data base. The computer equipment would be provided separately within the province. Taken together this will constitute the replicated facility that is the subject of the present feasibility analysis.

At present, there are four bibliographic utilities operating in North America. They are operated by:

1. OCLC, Inc.;
2. University of Toronto Library Automation Services (UTLAS);
3. Washington State Library - the Washington Library Network (WLN);
4. Research Libraries Group, Inc., - the Research Libraries Information Network (RLIN).

UTLAS and OCLC do not place limits upon their membership with respect to type or location of library. Two of them, WLN and RLIN, do place restrictions; WLN's are geographic and RLIN's are type of library. These restrictions are imposed because WLN and RLG (operating RLIN) function as networks for their memberships and operate their utilities in support of these network functions.

At present, the libraries who are using the services of a utility, are benefiting from the information that is produced by the other participants in the utility and shared among all participants in the utility. Unfortunately, there is no comparable sharing of data bases between the utilities. This is due partially to technical differences among the networks that must be resolved. Primarily, however, it is due to the potential competition among the utilities and the key position of the utility's data base in providing a competitive advantage.

Although the utilities are not organized as competitive for-profit corporations, their competitive posture arises from the different ways in which they have defined the libraries that they wish to serve.

For example, the University of British Columbia is the type of library that RLG wishes to have in its membership. At the same time, UBC is in the geographic area that WLN wishes to serve, approximately the area covered by the Pacific Northwest Bibliographic Center. And OCLC has recently set up services for its first Canadian library; doubtless it would be interested in serving UBC. And UBC is using UTLAS.

Although there has been no sharing of bibliographic data between the utilities, there has been a committee working on the development of procedures for such sharing. Also, WLN and RLG have entered into an agreement which commits them to sharing their data bases. As a a result, it is reasonable to expect that data base sharing arrangements and the mechanisms to perform the sharing will be in place within a few years. As a result, planning for the future should anticipate that such sharing will take place on a routine basis.

C. THE ROLE OF BCUC*

1. BCUC Accomplishments to Date as a Predictor of Future Success

Replication of a bibliographic utility is being considered in the context of over two years of successful accomplishments by twenty-five B.C. libraries cooperating to build a B.C. Union Catalogue Data Base which contains over 1,000,000 records.

The BCUC Member Libraries have implemented a common on-line catalogue support system; defined and accepted common bibliographic and coding standards; closed their manual card catalogues and replaced them with computer products and services; while at the same time engaging in the shared enterprise of cooperatively building a provincial library data base. These libraries have proved that they can cooperate and coordinate their activities.

The BCUC Central Office has managed to attract a small but competent professional staff which has strengths in the areas of: management, library systems, and library bibliographic standards.

This is a good track record upon which to predict future success. It is a sound foundation of acheivements and experience upon which to build a bibliographic utility.

2. Strategy of System Replication as a Way to Establish a Bibliographic Utility

BCUC is considering the establishment of a provincial based bibliographic utility as the core around which to develop a full-service B.C. regional library network via the strategy of system replication. The feasibility of doing this is being considered within a five-year planning horizon: 1980-1985.

Over a decade and several large capital investments have gone into the development of on-line computer systems for libraries. While some systems have failed to meet expectations, others have exceeded original expectations.

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* This section was provided by Paul Baldwin, Director of BCUC.

Numerous efforts have gone into establishing standardized bibliographic records in machine readable form, the MARC formats. Both the National Library of Canada and the Library of Congress have been active in these efforts. Each presently has subscription services through which they issue MARC records for current publications.

Replication of a proven system has much to recommend itself as a strategy for establishing a regional bibliographic utility. A well chosen system, implemented carefully can minimize risk, cost, and time required. Such a strategy builds on the accomplishments of the last decade by using proven technological applications, and existing bibliographic data files.

3. Concept of the Bibliographic Utility

The bibliographic utility is the technical support system, computer hardware and software, data files, and experienced personnel. The concept of building a B.C. provincial library network around the core of a bibliographic utility is an emerging concept. Other regional library networks, such as SOLINET, are also considering the alternative of a regional bibliographic utility rather than expending all their resources on a national bibliographic utility such as UTLAS or OCLC.

BCUC members are agreed that the network must be centered around a catalogue support system. The services and products must be of a quality and cost at least on a par to those now provided the BCUC member libraries by UTLAS. The cataloguing support module and union catalogue data base must remain the initial emphasis of the BCUC utility and network.

A provincial bibliographic utility will need to be operated in a business-like way on at least a cost recovery basis. The provincial utility will need to compete to some extent with respect to prices, availability, and quality of services and products in order to retain its client library base.

However, the relationship must not be construed as simply a vendor relationship with the user libraries as passive consumers of the utility's products and services. BCUC's concept of the utility is that is must to some extent be the creature of the cooperative library network.

4. Concept of the Cooperative Library Network

The cooperative library network is an umbrella organization of libraries which have banded together to use a common bibliographic utility as a way to extend the range and depth of information services which each can offer and deliver to their own user constituencies. It is also a mechanism for sharing the risks and costs of computer service developments.

5. Synergy of the Two Concepts when Combined

The two concepts combined in one organizational structure can overcome jurisdictional and finanacial barriers to such coordination. The aim is to provide a synergistic effect whereby the coordination and integration of roughly the same levels or magnitudes of resource expenditures when reallocated provide more benefits and services to individual libraries than they could possibly achieve standing alone as completely independent enterprises. The utility and the libraries must work together in a partnership. And an explicit organizational structure must recognize this partnership. Further information is provided in Appendix D: BCUC Governance and Management.

6. Definition of Economic Feasibility

A BCUC Bibliographic Utility will be economically viable in the long run only if it can operate in a business-like way by recovering costs of operations and developments via the service fees which it charges its member libraries.

The network of user libraries will only use the services of the provincial utility if they perceive that the unit costs of products and services which they pay out of their own operating budgets are equal to or less than what they would pay for equivalent products and services from in-house systems or from other alternative external agencies.

Part of the justification of a provincial development must be based upon the advantages of local control to determine development and service priorities. Presumably the provincial development would be able to provide a more responsive mix of products and services than could be obtained from another agency such as UTLAS.

In making cost comparisons there is always the problem that alternative services and products are not truly equivalent. Also, using two different bibliographic utilities has different cost implications for the internal staff costs to operate each system. For instance, varying hit rates, varying quality of shared records, system response times, all have different cost implications for the library's staff which may use two alternative cataloguing support systems.

It will be demonstrated that the fixed cost overhead of a BCUC Bibliographic Utility must be allocated onto a minimum workload of services purchased by the member libraries in order to achieve unit prices equivalent to the UTLAS alternative. Taken alone, the present cataloguing support services purchased from UTLAS are not of sufficient volume or magnitude to make the provincial system price competitive. More support would give the provincial utility a large enough service workload to make itself price competitive.

The Greater Vancouver Library Federation (especially Vancouver Public Library and Greater Victoria Public Library) will be important target members to insure that BCUC has a large enough client base to support a provincial bibliographic utility. They are obviously an important key if one is to claim to have a province-wide library network. It will need to include most of the large library systems to provide a "provincial library service". The Lower Mainland and Victoria must be the prime target area because that is where most of the library resources are located and because concentration here will minimize the data communications costs for the network at time of start-up.

7. Overcoming Start-Up Barriers

a. Network Member Libraries and the Provincial Ministries

The current BCUC Member Libraries now have affiliations with at least four Provincial Ministries:

1.) The Minstry of Education
2.) The Minstry of Universities, Sciences and Communications
3.) The Provincial Secretary
4.) The Attorney General

b. Start-Up Funding

Start-up funding should ideally be provided from several Provincial Ministries which have responsibilities for funding the different types of B.C. Libraries. Funding will be required to establish the bibliographic utility and to transfer the BCUC data files from UTLAS.

In addition the central facility should receive funding in steadily diminishing amounts over several years until it can support itself solely on revenue generated by the sales of its products and services to its member libraries. There are at least two major transitions for which this funding should be used:

a. Transition in Current Member Libraries' Operating Budgets

The present BCUC Member Libraries will be paying approximately $1,460,000 out of their 1980/81 operating budgets for catalogue support services from UTLAS (plus $450,000 when authority control is implemented). This money could easily be shifted to support of a provincial bibliographic utility.

But to attain economic viability as well as support an expanded program of network services, the utility would need to provide and sell other network services, such as: acquisitions support, on-line reference inquiry, and inter-library loans to the member libraries which now use the UTLAS cataloguing support system.

Initial subsidy of these extended services for several years would motivate the members to implement these systems immediately while planning the necessary reallocations in their operating budgets which are necessary for long term support of the utility and network.

The SFU and UBC libraries presently operate batch mode acquisitions systems which would have to be abandoned in order to switch to the utility's system. The transition from the present systems to a new system requires both time and additional funds.

Aside from acquisitions, libraries would require time to budget for the use of the utility's on-line reference inquiry and inter-library loans system.

b. Encouragement for the Public Libraries to Use the Bibliographic Utility on a Full-Service Basis

One of the major barriers to public libraries following the academic libraries development pattern has been the lack of special funding to build a retrospective bibliographic data file of high quality.

A replicated utility could provide this service to those libraries if Provincial-level funding could be made available to encourage them to create a standard MARC data base. The majority of their record needs could be provided out of the BCUC local data file (unlike the RECON needs of the three universities).

It is unlikely that this will happen if individaul funding battles have to be fought in every municipality.

The lack of utilization of the MARC standardized bibliographic records is a barrier to the public libraries becoming full partners in a B.C. Provincial library resource sharing network. Without MARC standardized records it will be difficult if not impossible to interface the minicomputer systems being implemented by these libraries with the central utility's system. A proposal to prevent this sequence of events has already been presented to the Provincial Secretary by the Greater Vancouver Library Federation; but the response at this time appears to be a rejection of the MARC standard record.

III ANALYSIS OF OPERATING CHARACTERISTICS - UTLAS AND WLN

A. OVERVIEW

1. Procedure

First the different kinds of information were identified, then several methods of collecting that information were devised. The methods varied with the character of the data and the staff available to collect the information. A complete set of data collection forms and instructions is included in Appendix A. A questionnaire was chosen as the tool to gather user information. Statistically based random catalogue and acquistion samples were chosen as the means for determining record availability and search time. A log was chosen as the method for gathering information on downtime experienced by users of the UTLAS system. And finally written detailed questions, site visits, and a formal rating scheme were chosen to facilitate the in-depth feature comparison of the two systems.

The data collection tasks were shared by Ringgold Management Systems and the BCUC office. The data collection efforts were begun in July 1979 and most were completed by October 1979. The data analysis was for the most part completed in November 1979.

The random samples of record availability and search time were analysed to provide a statistically reliable estimate of the utility of the two systems. The user questionnaires were reviewed and summarized, but no attempt was made to go beyond a qualitative assessment of the general reactions of the respondents to the two systems. In order to analyse the results of the features comparison a two part process was used; in the first part, BCUC provided the relative importance of the various system features - search capability, file management, circulation control,..- in the form of the maximum number of points that could be awarded for the way in which the system provided those features; and in the second part, Ringgold distributed those points to each of the questions about each feature and then assigned the points earned by each system on each question. The points awarded were then totaled to provide an overall score for each of the two systems.

2. Results

Overall, the evaluation indicates that for BCUC, WLN is slightly better than UTLAS. However, the two systems have many different features, some strong and some weak, and overall, the evaluation of the two systems is very close. Therefore, the evaluation of systems performance does not recommend one system over the other. The results are summarized as follows:

	UTLAS	WLN
1. User Responses	Higher level of dissatisfaction indicated	Mostly indicated satisfaction
2. Record Availability - Find Percentage		
Current materials	69% ± 4%	72% ± 4%
Difference in find rate		3% ± 6%
RECON (Universities)	51% ± 4%	45% ± 4%
Difference in find rate	6% ± 6%	
3. Search Time - Minutes Per Search		
Current materials	1.2 ± 0.5	1.0 ± 0.1
Difference in time	0.2 ± 0.5	
RECON (Universities)	2.0 ± 0.4	1.1 ± 0.1
Difference in time	0.9 ± 0.4	
Current & RECON combined	1.7 ± 0.4	1.1 ± 0.1
Difference in time	0.6 ± 0.4	
4. System Features		
Points Awarded	564.5	627.5
Percent of Total Points	59%	65%
Ratio of Lower to Higher	90%	
Difference in Percent Award		6%

If the costs of the two systems were the same and neither system were installed in the province, then WLN would be the preferred system. However, since UTLAS is already installed, it would be desirable to first attempt to correct the observed problems with UTLAS before deciding that they are incorrectable.

While WLN provided better search times and had the highest score on its system features, the search time still exceeds one minute and only 2/3 of the available points were awarded. This indicates that in order to have a successful network operation during the coming decade, there must be a continuing investment by the province in the development of improved systems.

B. SURVEY OF LIBRARY USERS OF THE SYSTEMS - UTLAS AND WLN

A general purpose questionnaire was drawn up to gather information of the use of the two systems and to access albeit subjectively the relative satisfaction or dissatisfaction of the users. The survey answers are included in Appendix A. The questionnaire is included in Appendix A. The questionnaire gathered factual data that was used in later analysis and the questionnaire provided some insights into user satisfaction.

The questions were divided into six separate categories: system usage, implementation of the systems, cataloguing practices, system support, system operations, and overall rating. System usage dealt with such matters as which subsystems are in use, how many terminals, how many hours per day the terminals are in use, and how many titles are acquired annually. Implementation included questions relating to initial training, user manuals, and facilities modification. Cataloguing practices touched on changes to practices because of the system, hit rate on the system data base, quality of data base records, ease of editing, ease of searching, and finally the kinds and quality of the batch products. System support assumed the existence of user groups which in fact do not exist for either systems. Nevertheless the questions delved into to whom questions should be addressed and the quality of the answers. System operation questions probed into the frequency of system failures, understanding of the causes for system failure, and the user reaction to system failures. The last section - overall rating - elicited whatever good and bad comments users wished to make.

The WLN responses from academic and public libraries alike were thoughtful. They did not appear overly critical or dissatisfied. Their suggestions for system improvements displayed a familiarity with the various subsystems and a desire to perfect but not totally revise the subsystems. There was only one complaint about cost, and no complaints on the following subjects: central review of bibliographic records, the quality of the authority file, network staff, and governance structure.

The UTLAS responses revealed a pervasive dissatisfaction. There was a distinct propensity to pick at everything about the system. While there were staunch supporters of UTLAS, they were consciously defending UTLAS. The negative comments covered the gamut from high costs, frequent system downtime, slow system response, evasive network staff, faulty system design, and to no voice in setting development priorities.

C. SAMPLE AND TEST OF RECORD AVAILABILITY AND SEARCH TIME

1. CURRENT SAMPLE

Two samples of records were searched against the two systems. One was a sample of materials currently being purchased by the institution within BCUC, and the other was a sample of material already owned by the three universities as of 1978. The former was referred to as the current sample while the latter was referred to as the recon sample. The current sample was selected from the new materials received during a four week period in the summer of 1979. A sample size of 1100 was expected to provide a 95% confidence level with an accuracy range of ± 5%. The current sample was important to determine the availability of machine readable records for current acquisitions. Figure 4 shows the results of the current sample. The actual sample size was 1130.

a. Data Availability

In the UTLAS system 69%±3% of the sample titles were found. In the WLN system 64%±3% of the sample titles were found. A correction was made to the WLN figures for the CAN MARC and BCUC contributed records. These records would be available in whatever system was used by the BCUC libraries, although they are not currently available within the WLN data base. The correction changed the WLN success rate to 72%±3% for titles found.

The results overlap in the range of 69% to 72%. For this reason it is our conclusion that the hit rates do not vary substantially between the two systems for current materials. Additional testing with a larger sample size would be necessary to determine which system has the higher rate.

The results for each of the groups of libraries: universities, colleges, and other, do differ from the results for the entire sample. For the universities the percent of titles found on UTLAS was 57%±4%, and the corrected WLN percent of titles found was 56%±4%. These numbers overlap in the range of 53% to 60%. For this reason it is our conclusion that the hit rates do not vary substantially between the two systems for current materials purchased by the universities. The hit rates are lower for the universities than the entire current sample hit rate, because the universities acquire some unique research materials.

For the colleges the percent of titles found on UTLAS was 85%±3%, and the corrected WLN percent of titles found was 92%±3%. While the hit rates for the colleges are substantially higher for both systems than the hit rates for the sample as a whole, the results for the colleges do not overlap one another. WLN has the higher success rate for the colleges. The difference is 7%±3%, that is, the hit rate for WLN is from 4% to 10% greater than for UTLAS. More of the materials acquired by the colleges were found in the two data bases, because colleges purchase general interest material that is not as unique and diverse as the universities.

For the 'Other' group the percent of titles found on UTLAS was 65% ±8%, and the corrected WLN percent of titles found was 73%±8%. These results overlap in the range of 65% to 73%. These results show no significant difference in the hit rates of the two systems for materials acquired by the Other group. The sample size for this group was small, 135 titles. It is possible that a larger sample would yield results that would show a significant difference in the success rates. With a larger sample the error factor of 8% would be reduced for the 95% confidence interval. However, it is unlikely that the overall hit rate for all BCUC libraries would be more than 5% different.

b. Search Time

The total time to complete a search of a current title was calculated. Figure 5 shows the results for the current sample. The time to complete a search on UTLAS was 2.3 minutes, and on WLN it was 1.0 minutes. It does take longer to search a title on UTLAS. The search was precise keys for both systems. No attempts were made to use each system most efficiently, but rather the intent was to use each system with the same access keys.

The average (mean) search times was also calculated for each title found. Figure 5 shows these results. The mean time for each title found on UTLAS was 3.4 minutes, and on WLN it was 1.3 for the corrected hit rate. The UTLAS times were corrected, but in a different manner than the WLN correction, and for a different reason. There is a policy among the BCUC libraries that if a BCUC contributed record exists in the data base, it is the record of preference for any BCUC library. This policy facilitates the use of the system for the union catalogue. But in many instances, this policy does require additional time where a record is recalled from passive storage on the UTLAS system. Because UTLAS is in the process of revising their file architecture so that there is an abbreviated record in active storage for most records in passive storage, the need to recall a full record from passive storage will be reduced. For this reason the UTLAS search times were corrected to remove the time required to request a record from passive storage.

The correction factor was determined by timing the process for several records. The corrected UTLAS mean time per title found for the current sample was 1.8. While the correction clearly reduces the differences in the times for the two systems, it does not eliminate the difference. UTLAS still requires one half minute more. WLN can be searched more quickly on precise keys for the current sample.

The results for each group of libraries vary from the results of the total sample. The universities most closely follow the results of the total sample. The mean time per title searched on UTLAS was 1.9±0.5 minutes, and on WLN it was 0.9. The corrected mean time per title found on UTLAS was 2.0, and on WLN it was 1.6. UTLAS required 0.4 minutes longer than WLN. It is our conclusion that WLN is slightly faster to search on precise keys for current materials of the universities.

For the colleges the mean time per title searched on UTLAS was 3.0±0.5 minutes, and on WLN it was 1.1±0.1. It is not clear why the

UTLAS search time is so high for this group. It is certain that there was not a learning curve bias here. The corrected mean time per title found on UTLAS was 1.9 minutes, and on WLN it was 1.2. These mean times approximate the results of the total sample. It is our conclusion that WLN can be searched more quickly on precise keys for current materials of the colleges.

For the final group, Other, the mean time per title searched on UTLAS was 1.7±0.5 and on WLN it was 1.0±0.4. This is the only group where the search times overlapped. It is in the range of 1.2 to 1.4 minutes. The corrected mean time per title found on UTLAS was 1.2, and on WLN it was 1.3. The corrected UTLAS time is the shortest UTLAS time and is the only instance when UTLAS is faster than WLN. The results of this group do not parallel the other groups or the sample as a whole. Because of this and of the small sample size, 135 titles, it is our recommendation that the sample size for this group be increased, and another sample done to verify the results with a greater degree of confidence and accuracy.

c. Source of Titles Found

The source (e.g. LC MARC, CAN MARC, etc.) was tabulated for each of the titles found. This data was used to make the corrections on the success rate and the search times. Figure 5 shows the results for the current sample. The BCUC policy is to give preference to BCUC contributed records. The majority of these records (75% of all matches) were originally copied from LC MARC records, which provided another 19% directly. The comprehensiveness of LC MARC explains the WLN results, 94% LC MARC. The small number of CAN MARC records used (2% on UTLAS) is due to the lack of a Cutter number on these records. Other records with Cutter numbers are likely to be preferred.

d. Data Field Changes

An analysis was done on the number and kinds of changes that would need to be done on the titles found. Figure 7 displays the results. The number of changes was minor, .03 per title on UTLAS and .05 per title on WLN. The data fields needing changes were the edition and imprint.

e. Original Input of Catalogue Records

A group of twenty records was input into both systems. The exact input steps varied with the protocal of each system. The intent was to key, review, and release the record for inclusion into each data base. The average time to input a record on UTLAS was 5.9 ± 0.6 minutes. The average time to input a record on WLN was 2.9 ± 0.4 minutes. The WLN system required 3.0 ± 0.2 minutes less time per title input.

Figure 4 displays the total time required for original input in the two systems given the current BCUC workload. The difference in original input time is at least 2757 hours to WLN's favor. This is calculated by subtracting UTLAS' lowest search time 7011 - 713 hours from WLN's greatest 3113 + 429. If it is assumed that there are 1800 work hours per person year, that is excluding vacation, sick leave and holidays, then the difference is 1.53 person years in WLN's favor.

FIGURE 4

ESTIMATION OF SEARCH TIME AND ORIGINAL INPUT FOR CURRENT BCUC WORKLOAD

	UTLAS	WLN
Search BCUC Current Cataloguing Volume of 230,000	7283 ± 1917 hours	4217 ± 383
Total Titles Found	158,700 ± 6900	165,600 ± 6900
Total Titles Not Found	71,300 ± 6900	64,400 ± 6900
Total Time to Do Original Input on Titles Not Found	7011 ± 713 hours	3113 ± 429

GROUP	TOTAL TITLES SEARCHED	TOTAL SEARCH TIME (MINUTES)	MEAN MINUTES PER SEARCH*2	TOTAL TITLES FOUND #	TITLES FOUND PERCENT OF TOTAL SEARCHED *2	MEAN MINUTES PER TITLE FOUND	CORRECTED MEAN TIME PER TITLE FOUND *3
UNIV.							
UTLAS	559	1075	1.9 ± 0.5	320	57 ± 4	3.4	2.0
WLN	559	490	0.9 ± 0.1	264	47 ± 4	1.9	
WLN*1	559	---	E 0.9	315	56 ± 4	1.6	
COLLEGES							
UTLAS	439	1315	3.0 ± 0.5	373	85 ± 3	3.5	1.9
WLN	439	480	1.1 ± 0.1	365	83 ± 4	1.3	
WLN-A	439	---	E 1.1	404	92 ± 3	1.2	
OTHER							
UTLAS	132	230	1.7 ± 0.5	86	65 ± 8	2.7	1.2
WLN	132	125	1.0 ± 0.4	88	67 ± 8	1.4	
WLN-A	132	---	E 1.0	96	73 ± 8	1.3	
TOTAL							
UTLAS	1130	2620	2.3	779	69 ± 3	3.4	1.8
WLN	1130	1095	1.0	717	64 ± 3	1.5	
WLN-A	1130	---	E 1.0	815	72 ± 3	1.3	

*1. The WLN-A figures have been calculated to include BCUC contributed records and CAN-MARC records in the WLN hit rate. The assumption is that these files would be loaded in a replicated WLN facility.

*2. Results given for the 95% confidence interval.

*3. The "Corrected Mean Time Per Title Found" has been recalculated to exclude the time required to pull a title from passive storage on the UTLAS system only. The time is 1.92 minutes per title. This rate was multiplied by the total of BCUC contributed hits and the other contributed hits. The resulting total was subtracted from the total search time.

FIGURE 5

CURRENT SAMPLE RESULTS
SEARCH TIME AND SUCCESS RATE

```
*3.  (continued)

          Total BCUC Contrib.                506. +
          Total Other Contrib.               168. +
                                             674. T
     Time to pull from Passive               674. X
                                             1.92 =
     Total Passive Correction             1294.08
                                          1294.08 -
     Total Search Time                       4800. +
     Corrected Total Search Time          3505.92 T


                                          3505.92 ÷
     Total Titles Found                      1002. =
     Corrected Mean Time Per
        Title Found                    3.498922156
```

FIGURE 5 (cont.)

CURRENT SAMPLE RESULTS
SEARCH TIME AND SUCCESS RATE

GROUP	TOTAL TITLES FOUND	Source of Titles Found LC-MARC #	%	CAN-MARC #	%	BCUC CONTRIB #	%	OTHER CONTRIB #	%
UNIV.									
UTLAS	320	79	25	9	3	199	62	33	10
WLN	264	254	96	-		-		10	4
COLLEGES									
UTLAS	373	46	12	5	1	305	82	17	5
WLN	365	347	95	-		-		18	5
OTHER									
UTLAS	86	21	24	-		54	63	11	13
WLN	88	76	86	-		-		12	14
TOTAL									
UTLAS	779	146	19	14	2	558	72	61	8
WLN	717	677	94	-		-		40	6

FIGURE 6

CURRENT SAMPLE RESULTS
SOURCE OF TITLES FOUND

	Total Titles Searched	Number of Titles Found	No. of Exact	No. of Mods	Call Number	Main Entry	Title	Edition	Imprint	Collation	Series	Notes	Subject Headings	Added Entries	Identification Nos.	Ave. No. of Changes per Title
UNIV.																
UTLAS	559	320	309	11				.01	.03							.05
WLN	559	264	251	13				.01	.05							.06
COLLEGES																
UTLAS	439	373	367	6				--	.02							.02
WLN	439	365	349	16				.02	.04							.06
OTHER																
UTLAS	132	86	80	6					.07							.07
WLN	132	88	81	7					.08							.08
TOTAL																
UTLAS	1130	779	756	23				.01	.03							.03
WLN	1130	717	681	36				.01	.05							.05

FIGURE 7

CURRENT SAMPLE RESULTS
DATA MODIFICATION TALLY

2. RECON SAMPLE

The RECON sample included titles from the three universities only, since the other institutions within BCUC have virtually completed the conversion of their existing manual files. An important question is what percent of their holdings would be found in the data bases of the two systems. The collections of the universities are larger, and more diverse than the collections of the other institutions of BCUC. The random sample was selected in 1978 from the card catalogues.

a. Data Availability

The percent of titles found on UTLAS was 51%, and on WLN it was 39%. The WLN percent corrected for the BCUC contributed records and the CAN MARC records was 45%. These figures overlap in the range of 37% to 39%. It is our conclusion that neither systems results are good and the difference is insignificant.

The results were tabulated for each university. Figure 8 shows the results. SFU had a success rate of 65%±4% on UTLAS and 63%±4% on WLN. These figures were better than the sample as a whole. UBC fared the worst. Their success rate on UTLAS was 41%±4%, and on WLN it was 35%±4%.

b. Search Time

The total time to complete a search was calculated. Figure 8 shows the results. The time to complete a search on UTLAS was 2.6 minutes per title, and on WLN it was 1.1 minutes. The mean time per title found was also calculated. On UTLAS the mean time per title found corrected for passive storage was 4.0 minutes, and on WLN it was 2.4 minutes corrected for BCUC contributed MARC and CAN MARC records. Comparing the corrected figures for each system, it is our conclusion that it is faster by more than one minute and a half to complete a search on precise keys on WLN. Again there was no attempt to optimize the search strategy for each system, but rather to search both systems on the precise keys.

c. Source of Titles Found

The source (e.g. LC MARC, CAN MARC, etc.) was tabulated. Figure 9 displays the results. On UTLAS the percentages differed markedly from the current sample where the majority of the records were BCUC contributed. In the recon sample the UTLAS percentages were: 48% BCUC contributed records; 29% LC MARC; and 21% other contributed records. The WLN results were similar to the results for the current sample. They were: 95% LC MARC; and 5% other contributed records.

d. Data Field Changes

An analysis was done of the number and kinds of changes that would need to be made to the matching machine readable records so that they would truly match the manual records in the universities catalogs. The results are tabulated and displayed in Figure 10. For each of the universities the number of changes was greater than two per title. The fields needing changes most often were the call number, collation, subject headings, notes, and imprint. The decision to make the machine readable record match the manual record is discretionary, and some libraries have decided that the machine readable record need not match exactly in all data fields, but only in some key fields. Thus this data must be used with caution. The universities may decide the cost of modifying records is prohibitive, and they may choose to selectively alter data fields.

UNIVERSITY	TOTAL TITLES		TOTAL SEARCH TIME (MINUTES)	MEAN MINUTES PER SEARCH	TOTAL TITLES FOUND #	TITLES FOUND PERCENT OF TITLES SEARCHED*[3]	MEAN MINUTES PER TITLE FOUND	COLLECTED*[4] MEAN TIME PER TITLE FOUND
	IN FILE (1000)	SEARCHED #						
SFU	380							
UTLAS		600	1820	3.0 ± 0.4	390	65 ± 4	4.7	3.4
WLN		600	1045	1.7 ± 0.3	315	53 ± 4	3.3	
WLN-A*[1]		600	---	E 1.7	375	63 ± 4	2.8	
UVIC	500							
UTLAS		600	1365	2.3 ± 0.2	356	59 ± 4	3.8	2.6
WLN		600	640	1.1 ± 0.1	279	47 ± 4	2.3	
WLN-A		600	---	E 1.1	318	53 ± 4	2.0	
UBC	1000							
UTLAS		622	1615	2.6 ± 0.4	257	41 ± 4	6.3	5.0
WLN		622	545	0.9 ± 0.1	178	29 ± 4	3.1	
WLN-A		622	---	E 0.9	216	35 ± 4	2.5	
TOTAL*[2]	1880							
UTLAS		---	---	2.6	---	51	5.1	4.0
WLN		---	---	1.1	---	39	2.8	
WLN-A		---	---	E 1.1	---	45	2.4	

*1. The WLN-A figures have been calculated to include BCUC contributed records and CAN-MARC records in the WLN hit rate. The assumption is that these files would be loaded in a replicated WLN facility.

*2. Results are weighted in proportion to the total file size for each university.

*3. Results given for the 95% confidence interval.

*4. The "Corrected Mean Time Per Title Found" has been recalculated to exclude the time required to pull a title from passive storage on the UTLAS system only. The time is 1.92 minutes per title. This rate was multiplied by the total of BCUC contributed hits and the other contributed hits. The resulting total was subtracted from the total search time.

FIGURE 8

RECON SAMPLE FOR THE UNIVERSITIES
SEARCH TIME AND SUCCESS RATE

*4. (continued)

Total BCUC Contrib.	506. +
Total Other Contrib.	168. +
	674. T
Time to pull from Passive	674. X
	1.92 =
Total Passive Correction	1294.08
	1294.08 −
Total Search Time	4800. +
Corrected Total Search Time	3505.92 T
	3505.92 ÷
Total Titles Found	1002. =
Corrected Mean Time Per Title Found	.498922156

FIGURE 8

RECON SAMPLE FOR THE UNIVERSITITES
SEARCH TIME AND SUCCESS RATE
(Continued)

UNIVERSITY SYSTEM	TOTAL IN FILE (1000)	TITLES FOUND	SOURCE OF TITLES FOUND							
			LC-MARC		CAN-MARC		BCUC CONTRIB.		OTHER CONTRIB.	
		#	#	%	#	%	#	%	#	%
SFU	380									
UTLAS		390	110	28	3	1	237	61	40	10
WLN		315	304	97					11	3
UVIC	500									
UTLAS		356	124	35	2	1	165	46	65	18
WLN		279	270	97					9	3
UBC	1000									
UTLAS		257	70	27	8	3	113	44	66	26
WLN		178	168	94					10	6
TOTAL*[1]	1880									
UTLAS		--	--	29	--	2	--	48	--	21
WLN		--	--	95	--		--		--	5

*1. Results are weighted in proportion to the total file size for each University.

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FIGURE 9

RECON SAMPLE FOR THE UNIVERSITITES
SOURCE OF TITLES FOUND

	Total Titles Searched	No. of Titles Found	No. of Exact	No. of Mods	Call Number	Main Entry	Title	Edition	Imprint	Collation	Series	Notes	Subject Headings	Added Entries	Identification Nos.	Ave. No. of Changes per Title
SFU																
UTLAS	600	390	62	328	.47	.07	.09	.06	.26	.43	.11	.49	.23	.18	.04	2.43
WLN	600	315	56	259	.49	.003	.03	.07	.21	.49	.10	.53	.25	.25	.11	2.53
UVIC																
UTLAS	600	356	63	293	.61	.06	.08	.07	.32	.36	.14	.37	.28	.22	.03	2.53
WLN	600	279	58	221	.63	.05	.04	.08	.31	.35	.14	.37	.34	.23	.05	2.59
UBC																
UTLAS	622	256	18	238	.84	.16	.19	.12	.33	.45	.15	.40	.40	.27	.28	3.57
WLN	600	279	58	221	.63	.05	.04	.08	.31	.35	.14	.37	.34	.23	.05	2.59
Total																
UTLAS																
WLN																

*1. The percentages were arrived by dividing the total number of changes per MARC data field by the total number of titles found in the category.

FIGURE 10

10/27/79

"RECON SAMPLE FOR THE UNIVERSITIES
DATA MODIFICATION TALLEY"*1

D. DOWN TIME LOGS

A form was prepared for the BCUC libraries to record the time when the system was unavailable for use. This is often known as 'down time'. The form is included in Appendix B. The library was required to record the time the system became unavailable for use, the time the system was again available for use, and whether the users were notified prior to the system going down.

The results were plotted for each day. There was not a great deal of consistency noting that the system was down, much less when it went down or when it came back up. Many days only one or two users noted that the system was down. In other cases, there would be many libraries noting the system was down, but little agreement on the time the system went down, or the time the system came back up. Several tentative conclusions can be drawn from this: most users are not on the system the full day, so the recorded information on down time did not overlap; the problems with system reliability are not with the UTLAS system, but rather with the telephone lines and/or terminals; or the BCUC users were not careful in recording the requested information.

There were two purposes for the logs: the first was to determine if there was consistency in the down time, and second to begin the practice of recording system information so that more precise problem diagnosis could be done. As already noted there was little consistency in the reported down time. Further, the days and times reported should be checked with UTLAS to determine if the system was down, or if there were line problems. The BCUC office should continue to request these logs and should follow up to identify the cause of problems. The logs show that there are down time problems. It is likely that the down time is contributing to user dissatisfaction.

E. COMPARISON OF OPERATING FEATURES

The features comparison provided an indepth review of many aspects of each of the systems. The twelve areas chosen for close scrutiny were: General Management and Organization of the System, File Security and Management, Bibliographic Record Management, Search Capability, Authority Control, Batch Products and Services, Recon Methods, User Instructions, Serials, Acquisitions, Circulation, and Public Access. Detailed questions were developed in each area to ascertain the capability, the status (i.e. operational or under development), and the usefulness of the features. Information was also gathered on the replication of the WLN system. This information was not gathered for UTLAS, and thus the answers were not included in the feature rating.

The questions were used as guidelines for the site visits. In this way the system personnel were aware of the information needed, and consistent data could be collected from both systems. The final answers were written up and sent to the utilities to approve.

As the utilities were reviewing the written responses, the BCUC management committee was reviewing the questions without answers for either utility in order to determine the rating of each of the features. That is each participant was told to allocate 100 hundred points across the twelve feature areas. Each feature was to be appraised in terms of its relative worth to the BCUC libraries. This was not a ranking. There was no imperative for a number one feature. It was possible for two or more features to have the same worth. After each team of two assigned their ratings, the group as a whole met to discuss the final rating. There was much discussion, and considerable negotiation to arrive at the final weightings. The final figures are displayed in Figure 11.

The consultants next went through the final answers and awarded points to the responses based on the proportions of points allocated by the BCUC management committee. When each consultant had assigned his and her points, they met together to discuss their point assignments, especially the differences in points awarded. The reason to discuss the differences is those are the areas where either there may be a misinterpretation or different interpretation of the actualization of the feature or the relative importance of the feature. The final results are displayed in Figure 12 .

As can be seen from the chart of final ratings, neither system did extraordinarily well. Of the total points possible WLN had 65% and UTLAS had 59%. There are some features that neither system has successfully implemented, such as serials control and public access. There are features that one has implemented and the other has not, such as acquisitions which has been implemented by WLN and is under development by UTLAS. There are other features that need further work by both systems. An example of this is authority control. WLN has implemented authority control, but they are at present attempting to obtain grants to re-write their authority control system. UTLAS on the other hand has not fully implemented their authority control system. Both will face substantial changes in their handling of authority files when AACR2 is implemented. (AACR2 is a major revision on the way librarians record information on their holdings). Both systems need to increase their bibliographic file sizes. UTLAS is in the midst of a major change in the way their files are managed and accessed, and is replacing their hardware.

Two of the features in particular could or would be revised in a replicated facility. These are user instructions and general management. The user instructions could be entirely rewritten by BCUC in a replicated facility. While this lessens the importance of the existing user instruction, if BCUC does replicate, there will be a myriad of things for the BCUC staff to do. It would be to their advantage and ultimately the advantage of the BCUC libraries for the present user instructions to be acceptable.

General Management is another question. One might question why the general management of either system should be of interest in the feature comparison. If BCUC decides to replicate, they will set up their own management structure. However BCUC will need to know if the present WLN management structure is working and where are the weaknesses and the strengths. BCUC would of necessity rely on the WLN management for support and training. Therefore BCUC must know what to expect from the WLN general management. If BCUC chooses not to replicate, in part their decision will be based on the UTLAS management and their commitment to work with BCUC. Therefore, although the general management of a replicated facility is under the control of the replicating organization, they must know both if the present management is a good model to follow and how helpful the present management will be to the replicated facility.

In conclusion while WLN attained a higher score or a higher percentage of the points possible, there is not a significant difference between the two systems. They both have strengths and weaknesses. UTLAS has a substantial amount of work to do to restructure their files, to replace their computer equipment, and to develop acquisitions and serials control. WLN on the other hand has a substantial amount of work to do to rewrite their authority control system, to develop serials control, and to build their support staff. The feature comparison results alone cannot form the basis for a recommendation of one system over the other.

FIGURE 11

BCUC -- UTLAS & WLN

FEATURE COMPARISON RATINGS

Feature	Rating
1. Search Capability Access keys available for searching the bibliographic, holdings, and authority files; types of searching - Boolean, browsing; CRT displays of matching records.	130
2. File Security and Management Schema of file interrelationships; file and index up-date practices; data and file security and reliability; response time data.	110
3. Bibliographic Record Management Record structure; data input quality standards; and policy on duplicate records.	100
4. Acquisitions Types of materials for which purchases are handled; acquisitions files and data elements; output products - purchase orders, claims, cancellations, etc.; fund accounting capabilities.	90
5. Serials Description of serials functions performed; serials files and data elements; link to other applications subsystems.	70
6. Batch Products and Services Characteristics of catalog cards, labels, edit lists, COM catalogs, and magnetic tapes.	70

FIGURE 11
(Continued)

BCUC -- UTLAS & WLN

FEATURE COMPARISON RATINGS

Feature	Rating
7. RECON Facilities - batch or on-line - for conversion of manual files.	50
8. Authority Control Automated means to regularize the vocabulary words important as access points.	120
9. Circulation Control Inventory control of items out on loan and on the shelves.	70
10. Public Access Library users inquiry via CRT into the library's holdings.	50
11. User Instructions and Documentation Comprehensiveness, accuracy and effectiveness of the user manuals and documentation.	60
12. General Management Size and organization of the systems staff, development funding, future growth.	40
TOTAL	960

FIGURE 12
BCUC -- UTLAS & WLN
FEATURES COMPARISON RESULTS

Feature	Total Points Available*1	Points Awarded WLN	Points Awarded UTLAS	Percentage of Total Points Available WLN	Percentage of Total Points Available UTLAS	Percentage Difference in Points Awarded
1. Search	130	105.5	95.5	81	73	8
2. File Security	110	76.0	72.0	69	65	4
3. Acq.	90	58.0	2	64	02	62
4. Serials	70	9.0	2	13	03	10
5. Batch Prod.	70	48.5	54.0	69	77	(8)
6. Recon	50	40	40	80	80	0
7. Auth. Ctl.	120	57	97	48	81	(33)
8. Circ.	70	62	48	89	69	20
9. Pub/Cat. Pub/Circ.	50	25.5 {10.5 15	9.5 13.5} 23	51	46	5
10. User	60	38	48	63	80	(17)
11. Gen'l. Mgmt.	40	19	28	48	70	(22)
12. Bib Rec Mgmt.	100	89	55	89	55	34
Total, All Features	960	627.5	564.5	65	59	6

4 Dec. 1979

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*1. The number of points available for each features was established by BCUC in order to reflect the relative importance of the various features.

IV. ANALYSIS OF COSTS - UTLAS AND WLN

A. OVERVIEW

1. Procedure.

In order to compare the costs of UTLAS with those of WLN, it is necessary to project these costs on a comparable basis. For UTLAS, this consisted of the following steps:

1. Compilation of current costs and levels of activity of the BCUC libraries using UTLAS.
2. Inclusion of the BCUC central office expenditures in these costs.
3. Estimation of the added costs that will be incurred when authority control is applied to all BCUC records, using the authority records from BCUC's SHARAF project.
4. Estimation of additional expenditures that will occur in 1980/81 as a result of additional libraries joining BCUC.

Determination of the cost of a replicated facility, based upon the use of the WLN system was a more extensive procedure. It involved:

1. Contact with WLN to determine system configuration and staffing requirements for a replicated system.
2. Contact with the National Library of Australia to obtain information about their experience with their replication of the WLN system.
3. Contact with IBM, the telephone company (B C Tel), and other vendors in order to establish the costs of equipment, communications computer programs, etc., necessary to operate the WLN system.
4. Establishment of computer configurations and costs.

Two sets of estimates were made, one for the use of the system to support cataloguing only, the other to support all applications, cataloguing, acquisitions, and interlibrary loan. For each set, a high and a low estimate of the equipment costs were made - the form based upon new IBM equipment; the latter, on IBM-compatible or used equipment. In all cases, it was assumed that the computer configuration would be an independent facility, not shared with any other activity.

5. Estimation of the communications costs to support cataloguing or all activities.
6. Definition and estimation of the costs of the organization and staff necessary to operate the computer facility and the network office.
7. Definition of the work necessary to implement a replicated WLN facility, including the establishment of the network organization necessary to support the facility and the supply of its services to the libraries.
8. Projection of the timing of the implementation and the buildup of the network staff.
9. Estimation of the costs of the implementation of the replicated WLN facility.
10. Definition of the design tasks necessary to prepare for the implementation of a replicated WLN facility.
11. Estimation of the time and costs of the design phase.
12. Distribution of the start-up costs to the operation of the replicated facility. This was done using five years for equipment and ten years of amortization for all other costs, with an interest rate of 14%.

All cost information was gathered based upon current prices of equipment, staff and services. No attempt was made to extend these costs to reflect possible future inflation rates and the differential effect upon equipment and staff costs. In effect, this represents an assumption that the costs of UTLAS and a replicated WLN facility are equivalent with respect to their degree of change in response to inflation.

2. Results.

a. UTLAS

Annual operating costs for the BCUC libraries are as follows:

1. Current BCUC participants, no authority control

B.C. Central Office Personnel costs	$ 137,000
Other operating costs	$1,323,000
TOTAL	$1,460,000

2. Current BCUC participants with authority control

B.C. Central Office Personnel costs	$ 209,000
Other operating costs	$1,711,000
TOTAL	$1,920,000

3. Added participants (1980-81), no authority control and present participants with authority control

B.C. Central Office Personnel costs	$ 209,000
Other operating costs	$1,956,000
TOTAL	$2,165,000

4. Added participants, with authority control

B.C. Central Office Personnel costs	$ 209,000
Other operating costs	$2,022,000
TOTAL	$2,231,000

b. Replicated WLN Facility

Annual operating costs, including amortization of all start up costs of the facility on the assumption of an educational and research allowance to bypass import duty and federal taxes, are as follows:

	Low Estimate	High Estimate
1. Cataloguing only, with authority control		
B.C. Central Personnel costs	$ 788,000	$ 788,000
Amortization of start up costs	608,000	737,000
Other operating costs	509,000	541,000
CURRENT PARTICIPANTS, TOTAL	$1,905,000	$2,066,000
with ADDED PARTICIPANTS, TOTAL	$1,919,000	$2,080,000
2. All applications - cataloguing with authority control, acquisitions, interlibrary loan		
B.C. Central Personnel costs	$ 889,000	$ 889,000
Amortization of start up costs	698,000	860,000
Other operating costs	669,000	695,000
CURRENT PARTICIPANTS, TOTAL	$2,256,000	$2,444,000
with ADDED PARTICIPANTS, TOTAL	$2,293,000	$2,481,000

c. Comparison of UTLAS and WLN costs:

To the nearest ten thousand dollars, the cost comparisons of the two systems are as follows:

1. A replicated WLN facility would deliver more service than is currently purchased from UTLAS and it would cost more as well. The cost of UTLAS services presently obtained

is $410,000 to $570,000 per year less than the cost of the WLN facility for cataloguing only, whose range is: $1,870,000 - $2,030,000.

2. For comparable cataloguing services from the two systems, more authority control services would need to be purchased from UTLAS, increasing the cost of these services. The projected cost of UTLAS services is from $50,000 greater to $110,000 less than the cost of the WLN facility for cataloguing only, whose range is: $1,870,000 - $2,030,000.
3. For comparable cataloguing services extended to both current membership and new membership expected in 1980/81, the cost of both systems would increase, but UTLAS by a greater amount. The cost of UTLAS services is from $190,000 to $350,000 greater than the cost of the WLN facility for cataloguing only, whose range is: $1,880,000 - $2,040,000.
4. Using the full extent of available WLN services would allow it to be used for the support of acquisitions and interlibrary loan (the cost of extension of the latter has been included) as well as cataloguing. The cost of a comparable set of services from UTLAS is not available, since the services are not now offered. The cost of this full WLN facility to support present and anticipated 1980/81 BCUC membership is in the range of: $2,250,000 - $2,450,000.

B. UTLAS ANNUAL SERVICE COSTS TO B.C. LIBRARIES

The analysis of the annual service costs was carried out by the BCUC staff using current information on the billing to the libraries by UTLAS, the communications charges and the support costs of the central BCUC staff. The costs for the reproduction of the COM union catalog were not included, since these costs would be the same using either system. The summary of these costs is shown in Figure 13. The detail supporting this summary is found in Appendix D. These costs are shown in four parts:

1. The current costs are shown for just those services now being used. Specifically, while the SHARAF project has resulted in the creation of an automated authority file for BCUC, this file has not yet been integrated into the automated union catalogue and is not being used for the automated cataloguing processes.
2. The costs for current levels of activity plus the additional costs that will be incurred (using current pricing) when the automated authority control is fully incorporated into the cataloguing processes.
3. The costs of current membership using fully automated authority control (step 2 above) plus the provision of basic cataloguing services to the new membership of BCUC expected to join during 1980/81 (but using current pricing).
4. The costs for both the current membership and the expected 1980/81 membership, all using fully automated authority control procedures (at current pricing). (This step was added by Ringgold using the information provided by the BCUC staff, representing a marginal cost of $1.32 per title catalogued.)

C. B.C. LIBRARY NETWORK - ANNUAL SERVICE COSTS TO LIBRARIES

In order to estimate the costs of a replicated WLN facility operating to serve the member libraries of BCUC, it was necessary to establish the organization and staffing that would be necessary to operate the network, as well as to establish the equipment and communications that would be required. Following that, the work necessary to set up the system and the staging to set it up were defined. With this accomplished the costs of setting up and operating the network were estimated. Finally, the initial costs of setting up the network were annualized in order to arrive on an annual cost which could be compared with the costs of UTLAS services. The results are provided in three sections - the computer system and personnel costs, the transfer and start up costs, and the combined total annual operating costs.

1. Computer System and Personnel Costs.

The total costs to purchase the computer equipment necessary to support a facility using the replicated WLN system are shown in Figures 14 and 15. These costs are shown for two alternatives, the first for support of acquisitions, cataloguing and interlibrary loan and the second for the support of cataloguing only. For each alternative the costs are estimated in a range with the low estimate and the high estimate provided. It should be noted that these equipment costs are not necessarily paid out in a lump sum. Rather it is standard to pay for computer systems over periods of five to seven years. Subsequently in section IV. C. 3., we will amortize these costs over a five year period.

In addition to the initial purchase costs of the equipment, it is necessary to continue to maintain the equipment and to repair it when it fails. The monthly costs of obtaining this

Figure 13

ESTIMATED EXPENDITURES ON UTLAS CATALOGUING SUPPORT

(In 1979 Canadian dollars)

1. BCUC Member Libraries Expenditures on UTLAS 1979/80	
a. On-Line CATSS expenditures	$ 892,400
b. COM products expenditures	236,000
c. Catalogue card products	30,000
d. Magnetic tape service	4,300
Subtotal, Member Expenditures	$1,162,700
2. BCUC Central Office Expenditures 1979/80 (less interior communications subsidy included above)	300,000
Total BCUC Network Expenditures 1979/80	$1,462,700
3. Incremental Added Expenditures, Implementation of Authorities System	451,900
Total For Current BCUC Membership With Authorities	$1,914,600
4. Incremental Added Expenditures, New BCUC Member Libraries Expected 1980/81 (cataloguing support without authorities)	250,000
Total For Current BCUC Membership With Authorities, New 1980/81 Membership Without Authorities	$2,164,600
5. Incremental Added Expenditures, New BCUC Member Libraries Expected 1980/81 (authorities support)	66,000
Total For Expanded 1980/81 Membership With Authorities	$2,230,600

Source: Paul E. Baldwin, Director, BCUC. See Appendix D.

FIGURE 14

COMPUTER EQUIPMENT COSTS

BC LIBRARY NETWORK - ALL APPLICATIONS
(Replicated WLN Facility)
(In 1979 Canadian dollars)

	Low Purchase ($1000 CAN)	Monthly Maintenance ($1000 CAN)	High Purchase ($1000 CAN)	Monthly Maintenance ($1000 CAN)
Equipment				
Central Processor (2 MB, 4 MB)	250	2.0	368	0.7
Line Printer	51	0.4	51	0.4
Card Reader	23	0.1	18	0.1
Tape Ctl & 4 drives (6250 bpi)	82	0.7	180	0.7
Disk Ctl & drives (3 BB)	200	1.7	291	0.9
Subtotal	606*	4.9*	908*	2.8*
Communications				
Controller	50	0.8	66	0.4
Lines & Modem(1)	2	22.2	2	22.2
Display Controllers & Terminals (16,32)	170	2.6	331	1.8
Display Terminals (78,62)	180	2.0	213	1.2
Display Printers (24)	184	1.8	184	1.8
Subtotal	586*	29.4	796*	27.4*
Auxiliary Equipment	30*	0.5*	50*	0.8*
Storage Racks & Cabinets	19*	---*	28*	---*
Subtotal	120*	---*	175*	---*
Total Equipment	1,361*	34.8*	1,957*	31.0*

The costs are based upon an independent installation.
The low costs are estimated based upon a used IBM System 370/148 and the least expensive compatible equipment, new or used, available.
The high costs are based upon a much more powerful system, a new IBM 4341. In this case, import duty and federal taxes are included. If the system can be obtained under educational conditions (duty and tax free), the purchase cost of the high system would be reduced 16% or more. Note that the monthly maintenance costs are lower than for the "Low Purchase" system.

(1) Modems are included in the telephone line charges.

FIGURE 15

COMPUTER EQUIPMENT COSTS

BC LIBRARY NETWORK - CATALOGING ONLY
(Replicated WLN Facility)
(In 1979 Canadian dollars)

	Low Purchase ($1000 CAN)	Monthly Maintenance ($1000 CAN)	High Purchase ($1000 CAN)	Monthly Maintenance ($1000 CAN)
Equipment				
Central Processor (2MB, 4MB)	250	2.0	368	0.7
Line Printer	51	0.4	51	0.4
Card Reader	23	0.1	18	0.1
Tape Ctl & 4 drives (6250 bpi)	82	0.7	180	0.7
Disk Ctl & drives (3 BB)	200	1.7	291	0.9
Subtotal	606*	4.9*	908*	2.8*
Communications				
Controller	50	0.8	66	0.4
Lines & Modems (1)	2	14.3	2	14.3
Display Controllers [illegible]inals (16,24)	170	2.6	234	1.4
Display Terminals (,11)	44	0.5	38	0.2
Display Printers (0)	---	---	---	---
Subtotal	266*	18.2*	340*	16.3*
Auxiliary Equipment	30*	0.5*	50*	0.8*
Storage Racks & Cabinets	19*	---*	28*	---*
Initial Supplies				
Tapes & Disks	90	---	115	---
Other Supplies	30	---	60	---
Subtotal	120*	---*	175*	---*
Total Equipment	1,041*	23.6*	1,501*	19.9*

The costs are based upon an independent installation.
The low costs are estimated based upon a used IBM System 370/148 and the least expensive compatible equipment, new or used, available.
The high costs are based upon a much more powerful system, a new IBM 4341. In this case, import duty and federal taxes are included. If the system can be obtained under educational conditions (duty and tax free), the purchase cost of the high system would be reduced 16% or more. Note that the monthly maintenance costs are lower than for the "Low Purchase" system.

(1) Modems are included in the telephone line charges.

maintenance and repair are shown in Figures 14 and 15 as well. It should be noted that the maintenance costs for the equipment with the lower purchase price are in fact higher than for the equipment with the higher purchase price. The reason for this is that the lower purchase cost is based upon equipment which represents a more mature and less efficient technology than the equipment of the high estimate. As a result, a greater level of failure and of maintenance and repair effort is anticipated for the system with the lower purchase cost.

A substantial cost of the computer equipment is invested in the communications portion of the system. If the decision should be to develop a replicated facility, it will be desirable to investigate the communications alternatives in depth in order to establish the most effective and economical option to use. On the whole, however, the communications costs are directly related to the number of display terminals and display printers that are connected to the system. The estimated display terminal requirements for the present BCUC member libraries are shown in Figure 16. The number of printer terminals is estimated to be one per library, since the hard copy is needed only for supplemental support of acquisitions. In order to estimate the line, modem, and display controller requirements, the number of library locations having one, two, three, etc., terminals are displayed in Figure 17. For example, when all applications are supported, there will be 7 libraries each of which will have 4 terminals. The totals are given at the bottom of the figure.

The personnel costs projected for the continuing operation of the network are shown in Figure 18. It should be noted that there

FIGURE 16

TOTAL TERMINALS PROJECTED

BCUC NETWORK

	Terminals For:*1		
	Cataloguing	Acquisitions	Public Service
A. Colleges	#	#	#
1. BCIT/PVI	1	2	1
2. Camosun	1	–	1
3. Capilano	1	–	1
4. Cariboo	1	1	1
5. Douglas	1	1	4
6. East Kootenay	1	1	1
7. Fraser Valley	1	1	1
8. Justice Institute	1	–	1
9. Malaspina	1	–	1
10. New Caledonia	1	1	1
11. North Island	–	–	–
12. Northern Lights	1	–	1
13. Northwest Community	1	–	1
14. Okanagan	1	1	1
15. David Thompson	1	–	1
16. Selkirk	1	–	1
17. Vancouver Community	1	2	3
Subtotal, Colleges	16	10	21
B. Universities			
1. UBC	5	7	2
2. U. Vic.	4	5	2
3. SFU	3	3	2
Subtotal, Universities	12	15	6
C. Other			–
1. Burnaby Public	1	2	
2. Legislative Library	1	1	1
3. Richmond Public	1	2	–
4. Special Libs., Cat.	1	–	1
5. BCUC Network Ofc.	3	–	–
Subtotal, Other	7	5	2
GRAND TOTAL	35	30	29
		94	

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*1 Terminals are based upon:
- a. Cataloging; 1 terminal for each 12,000 titles added per year
- b. Acquisitions; 1 terminal for each 6,000 titles added per year
- c. Cataloging and acquisitions; 1 terminal per 4,800 titles added per year
- d. Public service; 2 terminals for each university
  1 terminal for each college location or special library.

FIGURE 17

NUMBER OF LOCATIONS HAVING TERMINALS

# of Terminals (Video or Print) Per Location	CAT	CAT & ACQ*[1]	ALL*[1]
1	20		5
2		9	
3	2	7	9
4	1	5	7
5	1		5
6			
7		1	
8			1
9			
10		1	
11			1
12			
13		1	
14			
15			1
Total Locations	24	24	29
Total Video Terminals	35	65	94
Total Print Terminals	--	24	24
If Stand alone terminals			
# of Modems @ terminal	24	30	40
# of 4 port MCUS	5	30	35
If 327X Controllers			
# of modems @ terminal	24	26	31

*1. With one printer terminal per technical services location.

FIGURE 18

PERSONNEL PROJECTION
FOR OPERATION OF
BC LIBRARY NETWORK
(Replicated WLN Facility)

(In 1979 Canadian dollars)

	CATALOGING ONLY		ALL APPLICATIONS	
GROUP AND POSITION	FTE	COST	FTE	COST
Administrative				
Director	1	$ 42,000	1	$ 42,000
Assistant to the Director	1	28,000	1	28,000
Adm. Services Manager	1	15,000	1	15,000
Switchbd. & Mail Dist.	1	11,000	1	11,000
Secretarial	3	36,000	3	36,000
Subtotal, Administrative	7	$132,000*	7	$132,000*
Planning & Finance				
Manager	1	$ 30,000	1	$ 30,000
Accountant	1	15,000	1	15,000
Bookkeeping & Purch. Clerk	1	11,000	1	11,000
Subtotal, Planning & Finance	3	$ 56,000*	3	$ 56,000*
Marketing, Lib. Support & Data Base				
Manager	1	$ 30,000	1	$ 30,000
Lib. Rep. & Trouble Desk	2	44,000	3	66,000
Duplicate Control	1	16,000	1	16,000
Authority Control	3	66,000	3	66,000
Subtotal, Mktg., Lib. Suppt.	7	$178,000*	8	$178,000*
Data Processing				
Manager	1	$ 35,000	1	$ 35,000
Analyst & Pgm. Manager	1	27,000	1	27,000
Systems & Telecom. Pgmr.	1	26,000	1	26,000
Database Mgr./Analyst	1	24,000	1	24,000
Systems Analysts	1	23,000	2	46,000
Applications Pgmr.	4	84,000	5	105,000
Technical Writer	-	--	1	18,000
Terminal Maintenance	1	16,000	1	16,000
Computer Operator	3	48,000	3	48,000
Tape Librarian	1	14,000	1	14,000
Scheduling Clerk	1	16,000	1	16,000
Subtotal, Data Processing	15	$313,000*	18	$375,000*
TOTAL DIRECT	32	$657,000	36	$741,000
FRINGE BENEFITS (20%)		131,000		148,000
GRAND TOTAL	32	$788,000	36	$889,000

is a staff of analysts and programmers projected for the network even though the fundamental assumption of the study is the transfer and use of computer programs that have been developed and are currently operational elsewhere. Even so, this staff is necessary, because as the analysis of the operating features revealed, both WLN and UTLAS have further development of their systems that will be needed. Therefore, the personnel projections include the staff necessary to continue a modest level of development of the system. It should be noted also that the projections for the facility dedicated to cataloguing do not contemplate a large reduction of the data processing staff. Since long term viability of the network will depend upon continuing development, we assume that the use of the system for cataloguing support only would be for a limited period and that most of the development staff would still be needed.

2. Transfer and Start Up Costs.

The summary costs of transfer and start up of the facility are shown in Figure 19 . These costs represent the total one time charges which would be incurred in order to obtain a fully operational library network based on the WLN system.

The transfer and start up costs are divided into two phases, the first a Design Phase and the second, Implementation. The detail results of the Design Phase estimation are given in section VI. C. The total estimated costs of the Design Phase are from $130,000 to $175,000 for a facility to be used exclusively for cataloguing; and from $150,000 to $200,000 for a facility to support acquisitions, cataloguing and interlibrary loan.

FIGURE 19
SUMMARY OF START UP COSTS
B.C. LIBRARY NETWORK
IMPORT DUTY AND FEDERAL TAXES WAIVED
(In thousands of 1979 Canadian dollars)

	Cataloguing only		All applications	
	Low	High	Low	High
Design (6 months)	$ 130*	$ 175*	$ 150*	$ 200*
Implementation (18 months)				
Computer Equipment(1)	874*	1,261*	1,143	1,644*
Software				
ADABAS(2)	154	154	154	154
WLN system(2)	234	234	234	234
Total Software	388*	388*	388*	388*
Other Implementation				
Personnel (18 months)	842	842	842	842
BCUC/UTLAS Data Base Purchase	40	60	40	60
Data Processing Supplies	15	20	20	30
Maintenance				
Central Computer (15 mos)	81	54	81	54
Communications				
limited system (6 mos)	15	12	17	15
full system (3 mos)	55	49	88	82
Software				
ADABAS (6 mos net warranty)	4	4	4	4
WLN (12 months)	12	12	12	12
IBM (18 months)	49	49	49	49
Space & Utilities	90	150	90	150
Office Supplies, Tel & Tel, etc.	60	80	75	90
Travel	30	45	45	60
Professional Fees	30	30	30	30
Total, Other Implementation	$ 1,323*	$ 1,407*	$1,393*	$1,478*
GRAND TOTAL	$2,715	$3,231	$3,074	$3,710
Amortized Start up, Annual Cost				
Computer Equipment & Software (5 years 14%)	$ 346	$ 452	$ 420	$ 557
All other (10 years 14%)	262	285	278	303
Total annual	$ 608	$ 737	$ 698	$ 860

(1) As indicated by the IBM representative, the equipment costs are reduced by 16% to account for the elimination of duty and federal tax requirements dues to educational and research purposes.

(2) Cost reduced by 22% to account for elimination of duty and federal tax.

It should be noted that the costs shown in Figure 19 need not represent actual cash flow during the Implementation Phase. Rather, it is very likely that the purchase of the computer equipment, particularly, will be spread over a period of years, with an interest rate imposed on the outstanding principle. For example, it is common to pay for new computing equipment over a period of 5 - 7 years with an interest rate of 12 - 14%. For the purposes of arriving at equivalent annual costs of the replicated WLN facility with the costs of continuing to use UTLAS services, we will use a period of 5 years and an interest rate of 14% for computing equipment and for the purchase of required computer software. The staffing of the network during the Implementation Phase, the transfer of the BCUC data base from UTLAS, and all of the other supplies and expenses, we will use a period of 10 years and an interest rate of 14%. The rationale for this longer period of time is that the development of a library network represents a long term committment. With the exception of the computer equipment, which is subject to both wear and obsolescence from innovation, these other start up costs will be sufficient for the next decade.

Figure 20 gives the projected staffing and costs of the network during the Implementation Phase. This projection is divided into three, six month periods. The total time was obtained by defining the tasks that were necessary for implementation, then estimating the effort and calendar time necessary to accomplish each task and then developing the critical path for this development. The results of this estimation are given in section VI C. From this project estimation, the time sequence of expanding the staff from the current BCUC staff into the full B.C. Library Network staff was developed.

FIGURE 20

PERSONNEL PROJECTION
FOR IMPLEMENTATION OF
BC LIBRARY NETWORK
(Replicated WLN Facility)
(In thousands of 1979 Canadian dollars)

	Six Month Period					
	1		2		3	
Group and Position	FTE	Cost ($1000)	FTE	Cost ($1000)	FTE	Cost ($1000)
Administrative						
Director	1	21	1	21	1	21
Assistant to the Director	1	14	1	14	1	14
Adm. Services Manager	1	7	11	8	1	8
Switchbd. & Mail Dist.	-	--	-	--	-	--
Secretarial	1	6	1	6	2	12
Subtotal, Administrative	4*	48*	4*	49*	5*	55*
Planning & Finance						
Manager	1	15	1	15	1	15
Accountant	-	--	-	--	-	--
Bookkeeping & Purch. Clerk	1	5	1	6	1	6
Subtotal, Planning & Finance	2*	20*	2*	21*	2*	21*
Marketing, Lib. Support & Data Base						
Manager	1	15	2	15	2	15
Lib. Rep. & Trouble Desk	2	22	2	22	2	22
Duplicate Control	-	--	1	8	1	8
Authority Control	-	--	1	11	3	33
Subtotal, Mktg., Lib. Support	3*	37*	5*	56*	7*	78*
Data Processing						
Manager	1	17	1	18	1	18
Analyst & Program Manager	1	14	1	14	1	14
Systems & Telecom. Pgmr.	1	13	1	13	1	13
Database Mgr./ Analyst	1	12	1	12	1	12
Systems Analysts	-	--	-	--	-	--
Applications Pgmr.	2	21	3	32	3	32
Technical Writer	-	--	-	--	-	--
Terminal Maintenance	-	--	-	--	1	8
Computer Operator	-	--	2	16	3	24
Tape Librarian	-	--	-	--	1	7
Scheduling Clerk	-	--	-	--	-	--
Subtotal, Data Processing	6*	77*	10*	112*	12*	128*
TOTAL DIRECT	15	182	21	238	26	282
FRINGE BENEFITS (20%)	-	36	-	48	-	56
GRAND TOTAL	15	218	21	286	26	338

* Amortization rate based upon 5 years, 14% interest: 6 month payment is 0.115 times the purchase cost.

Figure 21 gives the costs of the computer equipment during the Implementation Phase, based upon staging of the addition of the equipment, rather than the full purchase cost of all the equipment. This projection is given for the high estimate of the system supporting acquisitions and interlibrary loan as well as cataloguing. The costs during the Implementation Phase would not be substantially lower for the other alternatives. Similarly, Figure 22 gives the other costs that will be required during the Implementation Phase. Finally, the costs of personnel, equipment and other costs are summarized for the Implementation Phase in Figure 23.

FIGURE 21

IMPLEMENTATION PHASE
COMPUTER EQUIPMENT
AMORTIZATION COSTS
(In thousands of 1979 Canadian Dollars)

	Six Month Period		
Computer Equipment	1 ($1000)	2 ($1000)	3 ($1000)
Amortization			
Central processor	42	42	42
Line printer	6	6	6
Card reader	2	2	2
Tape control & 4 drives	21	21	21
Disk control	10	10	10
Disk drives (1/2,1,1)	12	24	24
Subtotal	93*	105*	105*
Communications Control (1/2,1,1)	4	8	8
Display control with terminals (1/32,4/32,19/32)	1	5	23
Added display terminals (-,4/62,30/62)	-	2	12
Display printers (-,4/24,12/24)	-	4	11
Subtotal	5*	19*	54*
Auxilary equipment (-,1/2,1)	-	3*	6*
Storage racks & cab (-,1/4,1)	-	1*	3*
TOTAL EQUIPMENT AMORTIZATION PAYMENTS	98	128	168

Amortization rate based upon 5 years,
14% interest: 6 month payment is 0.115 times
the purchase cost.

FIGURE 22

IMPLEMENTATION PHASE
OTHER COSTS
(In thousands of 1979 Canadian Dollars)

	Six Month Period		
	1 ($1000)	2 ($1000)	3 ($1000)
Software			
IBM	16	16	16
ADABAS purchase(1)	18	18	18
maintenance	-	-	4
WLN purchase(2)	27	27	27
maintenance	-	6	6
Subtotal Software	61*	67	71*
Equipment Maintenance			
Central system (incl COM control)	19	19	19
Display control & 1 display	-	1	6
Display terminals	-	-	3
Display printers	-	2	5
Subtotal, Equipment Maintenance	19*	22*	33*
Lines and Modems	1*	4*	33*
BCUC/UTLAS Data Base	-	20*	40*
Data Processing Supplies	25*	50*	100*
Office Supplies	7*	12*	15*
Travel	5*	10*	12*
Professional Fees	10*	10*	10*
Space	50*	50*	50*
TOTAL, OTHER COSTS	178	245	364

(1) Purchase price of $154,000 amortized over 5 years at 14% interest: 6 month ratio times purchase is 0.115.

(2) Purchase price of $234,000 amortized over 5 years at 14% interest.

FIGURE 23

IMPLEMENTATION PHASE
SUMMARY OF COSTS
(In thousands of 1979 Canadian Dollars)

	Six-Month Period:	1	2	3
1.	Equipment Amortization	$ 98,000	$128,000	$168,000
2.	Personnel	218,000	286,000	338,000
3.	Other Costs	178,000	245,000	364,000
	Period Total	$494,000	$659,000	$870,000

IMPLEMENTATION PHASE TOTAL *** $2,023,000 ***

3. Combined Total Annual Costs.

Figure 24 gives the total annual costs of the replicated facility, including amortization of all start up costs, all equipment costs all staff costs and all supply costs. On this fully amortized basis, the annual costs are:

Cataloguing Only	From $1,905,000 to $2,066,000
All Applications	From $2,256,000 to $2,444,000

Removal of the amortization of the equipment, software and start up costs, there will be continuing annual costs of:

Cataloguing Only	From $1,297,000 to $1,329,000
All Applications	From $1,558,000 to $1,584,000

The Director of BCUC has indicated that it is likely that the membership of BCUC will be increased in the 1980/81 period by the addition of the Vancouver Public, Greater Victoria Public and possibly 1 or 2 other libraries. In order to accommodate these libraries in the replicated facility, it will be necessary to add the on-line terminals to the system. This will increase both the purchase costs and the operating costs of the system. Figure 25 provides the projection of the added costs required to support this added membership. As can be seen, these costs are relatively low, since that size of membership increase does not have an effect upon the system size or the staff size required to support the entire membership. This is the case only because sufficient computing capacity was provided in the basic estimates to accommodate some expansion.

FIGURE 24

EXPECTED ANNUAL OPERATING COSTS
B.C. LIBRARY NETWORK
(In thousands of 1979 Canadian dollars)

	Cataloging only		All applications	
	Low (1000)	High (1000)	Low (1000)	High (1000)
Personnel				
Direct Staff (32,36)	657	657	741	741
Fringe Benefits	131	131	148	148
Subtotal, Personnel	788*	788*	889*	889*
System Amortization				
Equipment (5 years, 14%)	346	452	420	557
System setup (10 years, 14%)	262	285	278	303
Subtotal, Amortization	608*	737*	698*	860
Communications & Maintenance				
Communications (including terminals)	218	196	353	329
Computer	65	43	65	43
Software	53	53	53	53
Data Base	13	15	13	15
Subtotal, Communications & Maintenance	349*	307*	484*	440*
Space & Other Expenses	60	100	60	100
Data Processing Supplies	20	30	25	35
Office, Supplies, Tel & Tel, etc.	40	54	50	60
Travel	20	30	30	40
Professional Fees	20	20	20	20
Subtotal, Other Expenses	160*	234*	185*	255*
GRAND TOTAL	1,905	2,066	2,256	2,444

* Amortization rate based upon 5 years, 14% interest: 6 month payment is 0.115 times the purchase cost.

FIGURE 25

ADDITIONAL COSTS FOR SUPPORT OF POTENTIAL NEW MEMBER LIBRARIES

Video Terminal Requirements Library:	Cataloging	Acquisitions	Public Service
1. Vancouver Public	2	3	1
2. Greater Victoria Public	2	3	1
3. Other Lower Mainland Libraries (3)	3	3	3
	7	9	5

Distribution of terminals

# of Terminals (Display or Print) per locations	Catalog only	Number of Locations Catalog & Acq.	All
1	3	-	-
2	2	-	-
3	-	3	-
4	-	-	3
5	-	-	-
6	-	2	-
7	-	-	2
Total locations	5	5	5
Total video terminals	7	16	21
Total print terminals	-	5	5

Display Controllers (with 1 display) and added displays			
# with no added display	3	-	-
# with 1 added display	2	-	-
# with 2 added displays	-	3	-
# with 3 added displays	-	-	3
# with 4 added displays	-	-	-
# with 5 added displays	-	2	-
# with 6 added displays	-	-	2
Total controllers (with 1 display)	5	5	5
Total terminal adapters	-	7	12
Total added displays	2	11	16
Total printers	-	5	5

FIGURE 25
(Continued)

Additional Amortized Purchase Costs (High Estimate) (With import duty and federal tax)			
Controllers	$47,870	$47,870	$47,870
Terminal adapters	-	5,341	9,156
Added displays	6,878	37,829	55,024
Total printers	-	38,180	38,180
Total Purchase	$54,748	$129,220	$150,230
Less import duty and federal tax (16%)	8,760	20,675	24,037
Net Purchase	$45,988	$108,545	$126,193
	* *	* * *	* *
Annual Cost (with 5 year, 14% amortization)	$12,606*	$ 29,755*	$ 34,592*
Telephone Lines & Modems	$ 1,125*	$ 1,125*	$ 1,125*
Maintenance			
Controllers	$ 272	$ 272	$ 272
Terminal adaptors		13	22
Displays	37	204	297
Printers	-	369	369
Subtotal Maintenance	$ 309*	$ 858*	$ 960*
GRAND TOTAL, ADDED ANNUAL COST	$14,040	$ 31,738	$ 36,677

V. SUMMARY COMPARISON OF UTLAS AND REPLICATED WLN FACILITY

A. ECONOMIC FEASIBILITY

It is economically feasible to replicate the Washington Library Network system and data base if the policy of the province is to expand the computer based services which are made available to the libraries and if these services are offered to all libraries in the province and not exclusively to the present BCUC member libraries.

The determination of economic feasibility depends directly upon the scope of the services being considered and upon the number of libraries receiving those services. Overall, a replicated WLN facility would cost more than is currently being expended for UTLAS service by the present BCUC membership. But at the same time, both an increase in services and an expansion of BCUC membership are projected for the coming year. When the cost comparison is made with these changes, the projected cost of a replicated facility is less than the projected expenditures for UTLAS service. Finally, the replicated WLN facility can offer acquisitions support immediately, while acquisitions is in the design stage at UTLAS.

The following are the cost results for the alternative levels of service and membership:

1. Past Level of Automated Services Only.

Scope of Services: Cataloguing Without Authority Control

Scope of Libraries: Present BCUC Membership Only

The annual costs for

UTLAS	$1,460,000
WLN (replicated)	$1,910,000 to $2,070,000

Compared to UTLAS services, a replicated WLN facility will cost from $ 450,000 to $ 610,000 more.

2. Cataloguing Expanded to Include Authority Control.

Scope of Services: Cataloguing with Authority Control

Scope of Libraries: Present BCUC Membership

The annual costs for

UTLAS	$$1,920,000
WLN (replicated)	$1,910,000 to $2,070,000

Compared to UTLAS services a replicated WLN facility will cost from $ 10,000 less to $150,000 more.

3. Expanded Cataloguing and Expanded Membership.

Scope of Services: Cataloguing with Authority Control

Scope of Libraries: Expected 1980/81 BCUC Membership

The annual costs for

UTLAS	$2,230,000
WLN (replicated)	$1,920,000 to $2,080,000

Compared to UTLAS services a replicated WLN facility will cost from $ 310,000 less to $150,000 less.

4. Expanded Cataloguing and Membership, Acquisitions and Interlibrary Loan.

Scope of Services: Cataloguing with Authority Control, Acquisitions and Interlibrary Loan

Scope of Libraries: Expected 1980/81 BCUC Membership

The annual costs for

UTLAS	acquisitions not presently available
WLN (replicated)	$2,290,000 to $2,480,000

B. OPERATING FEATURES

Comparing the operating features of the two systems, WLN has more advantages for BCUC as revealed by the scoring:

UTLAS received a score of..........................564.5
WLN received a score of............................627.5

Overall, the two systems are quite similar in their state of development; the major difference is that WLN has operational support for acquisitions, while UTLAS' is in the design stage. Both systems will require continuing development (and this has been included in the cost projection of a replicated facility) as shown by the percentage of total points that was awarded to each system.

UTLAS received......................................59%
WLN received..65%

C. CATALOGUING RECORD AVAILABILITY

For current cataloguing, WLN provided a slightly higher find rate than UTLAS, but they were approximately the same. For the universities' RECON, they were reversed:

	Current	RECON
UTLAS........................	69% ± 3%	51% ± 4%
WLN provided..................	72% ± 3%	45% ± 4%

For the universities' RECON work, there are likely to be better solutions available than the use of either of these systems.

D. SEARCH TIME

Searching is faster on the WLN system than it is on UTLAS: Average (mean) minutes per search plus or minus the 95% confidence interval gave:

	Current	RECON
UTLAS took.....................	1.9 ± 0.5	3.0 ± 0.4
WLN took.......................	1.1 ± 0.1	1.1 ± 0.1

Even after correcting for the revised search procedure that might exist after the UTLAS "new file architecture" is implemented, it is likely that UTLAS search time will be longer than WLN:

	Current	RECON
UTLAS may take (minutes per search):	1.2 ± 0.5	2.0 ± 0.4

In the search process, there was considerably more variation in the search time on the UTLAS system than on WLN as indicated by the larger range of the confidence interval.

E. ORIGINAL INPUT OF CATALOGUE RECORDS

The following are the average (mean) minutes per original record input, plus or minus the 95% confidence interval:

UTLAS took................................5.9 ± 0.6 minutes

WLN took..................................2.9 ± 0.4 minutes

The expected time advantage for WLN is 3.0 ± 0.8 minutes. For each 10,000 records or original cataloguing, this amounts to a total staff time reduction of from 367 - 633 person hours.

F. USER RESPONSES

The BCUC membership made more critical comments about UTLAS than did the libraries surveyed about their usage of WLN. In general, the comments conformed to our direct information about the two systems. We were unable to hypothesize a reason, other than genuine preference for the system, that would explain the difference in the two groups of responses.

VI. RECOMMENDATIONS AND NEXT STEPS

A. SUMMARY OF RECOMMENDATIONS

1. Establish a British Columbia Library Network (BCLN) and a supporting bibliographic utility to provide computer based services to all of the libraries of British Columbia.
2. Provide the full range of computer based services, including:
   a. cataloguing with authority control;
   b. acquisitions;
   c. interlibrary loan;
   d. circulation control;
   e. public access to the on-line union catalogue.
3. Select the most effective set of existing computer programs and procedures for the development of the bibliographic utility serving the BCLN.
4. Base the development of the BCLN upon the existing British Columbia Union Catalogue.
5. Within the JEM control structure, proceed to the Design Phase and perform the following activities.
   a. Set up a pilot project to be run during the Implementation Phase using the source institution's facilities - either DOBIS or WLN.
   b. Establish the user and data base requirements for the bibliographic utility and plan the transfer of existing BCUC data bases.
   c. Analyse the benefits of acquisitions and interlibrary loan support in order to aid in setting the priority of their implementation.
   d. Compare the DOBIS and WLN systems to determine the most appropriate system to be implemented.
   e. Select the most appropriate system to be implemented.
   f. Establish the BCLN structure and operating policies, including governance, organization, pricing and

financing, and implementation priorities.

g. Compare the alternative methods of providing the necessary computing facility support, using either a computer dedicated to the BCLN or one shared with other applications.

h. Select the most appropriate computing facility to support the BCLN.

i. Provide the continuing project management and control necessary to the coordination and integration of the project activities and to make any project modifications necessary to yield success.

6. Within the JEM control structure, follow the successful completion of the Design Phase with the Implementation Phase in order to set up the operational BCLN and its bibliographic utility.

7. During the Design and Implementation Phases, continue to work with UTLAS to maintain and improve the delivery of existing services to the BCUC libraries.

B. DISCUSSION OF RECOMMENDATIONS

1. Establish a British Columbia Library Network (BCLN) and a supporting bibliographic utility to provide computer based services to all of the libraries of British Columbia.

The results of this study indicate that an expanded volume of activity is necessary in order to provide cataloguing services at a cost which is no greater than that of UTLAS. At the same time, the necessary volume will become available in 1980/81 through the expected expansion of the membership of BCUC. That expansion, coupled with the planned use of cataloguing with authority control, is sufficient to make a replicated facility less expensive than comparable UTLAS services. That is, the cost of the replicated facility is expected to be at least $150,000 per year less than projected expenditures for UTLAS. Thus, the development of a bibliographic utility should be undertaken to support all libraries in the province, rather than for present BCUC membership.

2. Provide the full range of computer based services.

Cataloguing is the only service presently being supported by UTLAS. Therefore, the economic feasibility analysis, as it was structured within the scope of the study, was unable to address the other applications of automated support. Nonetheless, these applications are of great potential value in improving the library service provided and in controlling costs. Library automation trends throughout Canada and the U.S. indicate that all of these applications will soon be part of the average library's operations. As a result, the BCLN should be funded to continue to develop automated support for the entire range of library processes. Ultimately, the network should provide direct support to the library patron through computer searching of the catalogue of the holdings of the libraries of the province and of other available on-line catalogues and data bases.

Because of the substantial investment of money, staff and time that must be made in the design and implementaion of the BCLN and the bibliographic utility ($2.2 million, 31 person-years and 2 years of time), it is unreasonable to limit the immediate value of the BCLN to providing a cost avoidance of $150,000 per year. At minimum, immediate support should be provided to acquisitions in addition to cataloguing. That application can make direct use of the bibliographic data base maintained by the utility and the computer programs and procedures are known to be available.

3. Select the most effective set of existing computer programs and procedures for the development of the bibliographic utility serving the BCLN.

The present study of feasibility has demonstrated that there exists one set of computer programs, procedures and data base which could be used to establish the bibliographic utility. It was not within the scope of the present study to establish the best set of programs, etc., to be used. Rather, this is work that needs to be done as part of the Design Phase. At least one other system needs to be compared with the WLN system - the DOBIS system, one version of which is marketed by IBM; another version used by the National Library of Canada. In addition, the library automation field should be monitored closely during the next few months in case that alternative operational systems should become available prior to final committment to a specific system for replication.

4. Base the development of the BCLN upon the existing British Columbia Union Catalogue.

The BCUC has a track record of successful introduction of automated service in the libraries of the province and of establishing cooperative programs. Indeed, the BCUC is functioning as a network for the academic libraries at the present time. In setting up the BCLN, the positive track record and the structure of contacts that have been built up should be used to reduce the initial start up problems. It should be noted, however, that a very substantial expansion of the staff (to the equivalent of 36 full time people) is needed. This growth will need to be accomplished during the Design and Implementation Phases of the replication project.

5. Within the JEM control structure, proceed to the Design Phase and perform the following activities.

a. Set up a pilot project to be run during the Implementation Phase using the source institution's facilities - either DOBIS or WLN.

It is desirable to run a pilot operation using existing facilities because it will serve to verify the information obtained about the system and aid in the training and preparation that will be necessary to make a successful transfer of the BCUC libraries from the use of UTLAS to the new B.C. Library Network. This work can be accomplished by arranging for some pilot libraries to use the existing system during the Implementation Phase. The lead times in setting up the pilot operation are such that it will be necessary to begin early in the Design Phase if the pilot operations are to occur during the Implementation Phase of the project.

b. Establish the user and data base requirements for the bibliographic utility and plan the transfer of existing BCUC data bases.

There are a wide range of decisions that must be made with respect to establishing and maintaining the BCLN data base. First, it is not necessarily the case that BCLN maintain the total library data base independent of other utilities. It is possible to consider, for example, maintaining a connection with UTLAS and exchanging available bibliographic records on a usage demand basis. This may serve to reduce the cost requirement and increase the service potential of both utilities. Second, there is an important set of decisions to be made defining the nature of quality control that will be performed on the data base and the arrangements for carrying out the quality control either on a centralized or decentralized basis. And finally, a considerable amount of design attention must be devoted to the transfer of existing BCUC catalog records from UTLAS to the replicated facility. It is likely that some modification of the programs of the replicated facility will need to be specified.

c. Analyse the benefits of acquisitions and interlibrary loan support in order to aid in setting the priority of their implementation.

The state of library automation is such that any system which is acquired will require substantial continued development. In this situation, there will be continuing competition for the scarce development resources and it will be important to set and maintain clear implementation priorities.

d. Compare the DOBIS and WLN systems to determine the most appropriate system to be implemented.

The present study of feasibility established that there is one system, WLN, upon which replication and the development of a bibliographic utility for the province may be based. However, it was outside the scope of the present study to determine the most appropriate system for replication. This work is properly part of the Design Phase, the next phase of the project.

The DOBIS system is recommended for comparison with WLN because: one version of the system is in use by the National Library of Canada and is capable of supporting the bilingual CAN MARC bibliographic format; one version of the system is marketed and supported by IBM in Canada; support is provided for cataloguing, acquisitions and circulation under these various versions (however, the extent of their compatibility is unknown). Thus, from external appearances, the DOBIS system, in one or a combination of its versions, may be comparable or superior to the WLN system. Further investigation similar to that already performed for UTLAS and WLN is needed.

At present, there is no other operational bibliographic system that needs to be considered. This is the case because any system that is replicated should be: capable of utilizing equipment that is currently being manufactured; and, fully compatible with the standard MARC II bibliographic format. The systems presently used by UTLAS and by OCLC are based upon Xerox computer equipment which is no longer manufactured. While UTLAS is reprogramming their system for Honeywell equipment it will be several years before the system could be made available to others. The RLIN system meets the criteria indicated; however, investigation by others has indicated that transferring and maintaining the system would be substantially more expensive than would the WLN system. Also, RLG is undertaking a substantial reorganization of the system comparable to that of the UTLAS development of the "new file architecture." Finally, although the system developed and operated by the University of Chicago meets the criteria indicated, initial review does not indicate any probable advantage over WLN or DOBIS for an installation in British Columbia.

e. Select the most appropriate system to be implemented.

This activity follows the comparison of the DOBIS and WLN systems. It is separated from that comparison in recognition of the different nature of the effort. The comparison work is intended to provide the background technical work needed for the selection. The selection process will involve the review of this work, the incorporation of non-technical factors, and consultation with different individuals, organizations and oversight committees. The locus of the system selection decision will be dependent upon the organization and governance structure that is established for the BCLN.

f. Establish the BCLN structure and operating policies.

There are a wide range of issues that must be resolved in order to establish the BCLN structure and operating policies. These include the governance of the network, role and responsibilities, organization and staffing, pricing policies, sources of financial support and implementation priorities. There are numerous library networks in operation with a wide variety of governance arrangements, from an independent not-for-profit corporation to a department of a host library. These alternative structures should be reviewed and analysed with their respective strengths and weaknesses identified. This will aid the province in deciding upon the governance structure for the BCLN. Now it can only be stated that the final governance structure must assure the active participation of all BCLN members in discussing issues, setting priorities, and establishing policy. Clearly everyone cannot participate in all activities, or no other work would be accomplished in the provincial libraries. A means for choosing representatives to serve for limited terms on various management and policy committees must be devised. There will be committees to deal with many topics, among them cataloguing practices, quality standards, acquisitions, etc. In fact there will be enough committees, so that all who wish to participate will have ample opportunity.

BCLN will house the replicated system and its programs. Chief among the responsibilities will be the smooth operation of the bibliographic utility including the hardware, software, data base, support staff, user training, and product generation. The BCLN staff may not perform all these tasks themselves, but rather may contract out for some of these services. In any case, the ultimate responsibility for an efficiently run utility will rest with BCLN.

As the home of the utility providing support for all B.C. libraries, BCLN will become the provincial leader and spokesperson for library automation. In this role BCLN will provide guidance to libraries in using the utility as well as in using commercially available library automation packages such as circulation. BCLN will need to insure that the use of these commercially available packages is compatible with the other BCLN activities so that resource sharing within the province will not be threatened or thwarted by the use of a mix of systems. In other instances, BCLN will provide consultancy services to libraries embarking on automation. These libraries will need to know the steps to take to come fully online with BCLN.

In their leadership role, BCLN will be required to look beyond the province to the national and international scene of library automation and automation in general. Only by BCLN's participation in national and international library automation efforts will the deleterious effects of balkanization be prevented. It would be a great loss for resource sharing and library cooperation if each network persisted in working independently of one another. What is needed, indeed imperative, is that networks work together to share experiences and resources. It will be one of BCLN's primary responsibilities to fulfill this aim.

During the Design Phase, the organization and staffing should be defined in detail. That is, the reporting structure, the position descriptions, the staff requirements, the salary levels and the staffing levels need to be defined. It is envisioned that BCLN will be managed by a network director who will be assisted by managers with specific areas of responsibility. There will be a manager for library support, whose area will have continual contact with the participants. There will be a manager for financial affairs, whose area will keep track of the expenses and revenues. There will be a manager of computer systems. The responsibilities for this manager may or may not include the actual computer hardware. This will be dependent on the method chosen for supplying computer processing.

The intended staffing for a fully operational BCLN was shown in Figure 19. There will be a gradual phasing in of the personnel during the Design and Implementation Phases, as was shown in Figure 20. The technical staff will be among the first additions, because they must be familiar with the software and make certain necessary changes before the system will be available for use. The technical staff is of a size that BCLN will be able to continue the development of the replicated software. This is important so that BCLN will be a viable and dynamic organization responding to the needs of the participants and to the changes of technology.

The library support staff will include not only librarians responsible for continuing contact with the participants, but also staff to answer any questions that arise. These staff members will serve on what is commonly known as the "trouble" desk. The intent is to answer questions or diagnose problems quickly. The staffing level is such that all questions should be answered promptly.

BCLN staff will be responsible for a wide variety of activities. Some activities have already been mentioned as illustrations of the roles and responsibilities of BCLN. There are many other activities that are involved in operating a library network. There are planning sessions to assess the immediate and long term needs, and to devise means to meet those needs. BCLN will also oversee the enforcement of the quality control standards set by the participants. This may mean a centralized bibliographic review unit such as at WLN or it may mean a decentralized bibliographic review, in which case BCLN will perform only periodic quality control checks. There are other internal activities implicit in running a replicated facility such as loading MARC subscription tapes, printing catalogue cards and labels, producing COM catalogues, ordering card, label, and paper stock, and on and on. These activities will be done and they are implicit in the replication.

There are still other activities that have been alluded to. These relate to fitting BCLN into the national and international library automation picture. To do this BCLN staff will need to participate in the national and international activities. These activities can be committee membership, presentations of papers, written articles on the BCLN experience, participation in experimental programs, and development of additional software and/or unique data bases. It must be emphasized again that BCLN must participate in these activities so that BCLN and the province will enjoy the benefits of work done elsewhere. Cooperation among the networks and utilities can be done at many different levels. One of the easiest and most important is sharing of machine readable records. This can be done almost immediately via magnetic tape, and would constitute a committment to resource sharing. Eventually this may turn into shared access among the different bibliographic utilities from which all libraries and library users will benefit.

It was not within the scope of the present study to address the issues relating to providing the financial support for the network and the bibliographic utility. These issues are to be addressed during the Design Phase. At this point, some general principles can be suggested:

1. The long term objective of BCLN should be to recover all costs of operation from service charges to member libraries.
2. The initial costs of establishing the bibliographic utility cannot be borne by the libraries. (The budgeting process under which they operate does not provide them with capital which they may invest in such a development.)
3. The service pricing should be related to the amount of resources that are required for the service.

Within these general principles, however, there is room for large differences in specific interpretations. Further, there are other conflicting needs or principles. For example, price normally must be related to the pricing of any comparable or near comparable services. Also, in some instances, it may be desirable to offer a service "free" either because though desirable, there is no financial support for it, or, in order in order to build demand for an unfamiliar service. Ultimately, price is an instrument of policy. As such, it will be used to attempt to assure the long term survival of the organization.

During the Design Phase it is desirable to set the initial implementation priorities for the bibliographic utility. The principal focus of the present study has been upon cataloguing and presumably that will be the first priority for implementation. There is an open question with respect to the second priority.

One might make reasonable claims for acquisitions, for interlibrary loan, or for circulation control. To a certain extent, the priority will be dependent upon the availability of computer support for the application. However, given this availability for more than one application, a choice of implementation sequence will be needed. If the choice were to be made with no further analysis, acquisitions would have the strongest claim. It has a substantial volume of activity in that the current membership of BCUC acquires some 250,000 volumes annually, and direct use can be made of the bibliographic data base in the ordering and control process. While interlibrary loan support has significant long term potential for increased library service in the province, it is not likely to replace current manual costs (as should acquisitions). Although circulation control systems may be of substantial advantage to the libraries, these systems at present have no direct utilization of the bibliographic data base of the utility (with the possible exception of DOBIS). As they operate, these circulation systems obtain virtually all of their benefits independently of any connection to a bibliographic data base. While circulation systems are likely to be of value to the province, they do not represent a method of obtaining greater utilization of the bibliographic data base. Of course, their value to the libraries signals that circulation control systems should be included in the BCLN applications. Finally, while in the long run, direct public access to the on-line union catalogue will be of great value, it would require a substantial increase in the number of terminals in the libraries and thus the total cost of the system. Therefore, the immediate priority decision to be made is the sequence of implementing acquisitions and interlibrary loan support.

g. Compare the alternative methods of providing the necessary computing facility support, using either a computer dedicated to the BCLN or one shared with other applications.

In carrying out this feasibility study, all cost estimation was based upon the operation of an independent computer facility dedicated to BCLN services. During the Design Phase it will be necessary to compare this approach with the use of a computer facility which is shared with other applications. Also it will be necessary to establish the organization which will operate the computer facility. At this point, it appears that the alternatives available are: BCLN, B.C. Systems Corp., Simon Fraser University, or the University of British Columbia. If there is an a priori decision on the part of the province designating the organization to operate the computer facility it will still be desirable to carry out the comparison of a dedicated facility with a shared facility.

h. Select the most appropriate facility to support BCLN.

As with the comparison of WLN with DOBIS, the comparison of the shared and the independent, dedicated computing facility has been separated from the subsequent selection process. This separation is in recognition of the difference in the technical background work and the decision process which must incorporate non-technical factors and which will involve many people in the review process.

i. Provide the continuing project management and control necessary to the coordination and integration of the project activities and to make any project modifications necessary to yield success.

In the system development field, it has become accepted that a substantial amount of project management effort must be invested in a development project in order to assure its successful completion. Much of the effort that comprises project mangement is not readily identifiable outside the project. It consists of formal and informal communication addressed to the review of the project status, accomplishments, problems, future plans, schedules and so forth. The effort of project management is not necessarily porportional to the total cost of the project. It is related to the diversity of the project activities, to the understanding of the work to be accomplished and to the familiarity of the project staff in working with each other. Review of the work to be accomplished in the Design Phase will indicate that a high level of project management effort will be necessary, because both the British Columbia Library Network and the computer based bibliographic utility must be designed. To complete all the various activities of the Design Phase it is estimated that six months of time and a cost of $200,000 will be required.

6. Within the JEM control structure, follow the successful completion of the Design Phase with the Implementation Phase in order to set up the operational BCLN bibliographic utility.

Following the completion of the Design Phase, the Implemenation Phase will be performed in order to set up BCLN's bibliographic utility and bring it to the point at which it is operational and ready for use by all the libraries of British Columbia. During this phase, the major portion of the BCLN staffing will take place. Arrangements will be made for the computer facility - either to acquire it, or to contract for the provision of services. The communications system will be put in place in the libraries. The additional computer equipment will be obtained as needed. The computer programs and data base will be acquired and set up on the computer facility. A pilot operation will be carried out - first with the system operated by the source institution, and second on the replicated facility. When all of the staff and facilities are in place and checked out and ready, the Implementation Phase will be completed and BCLN will be ready for routine operations.

The Implementation Phase is estimated to require 18 months of time to complete. The cost of the Implementation Phase, divided into three six-month periods, will be:

	Six-Month Period:	1	2	3
1.	Equipment Amortization	$ 98,000	$128,000	$168,000
2.	Personnel	218,000	286,000	338,000
3.	Other	178,000	245,000	364,000
	Period Total	$494,000	$659,000	$870,000
	IMPLEMENTATION PHASE TOTAL		*** $2,023,000 ***	

7. During the Design and Implementation Phases, continue to work with UTLAS to maintain and improve the delivery of existing services to the BCUC libraries.

Because of the time required to develop BCLN's bibliographic utility, the BCUC member libraries will need to continue to use UTLAS services for at least two years. During this time, some BCUC/BCLN staff attention should be paid to improving the delivery of these services. Further, as the bibliographic utility presently serving the BCUC member libraries, UTLAS should be given the opportunity to propose approaches by which some continuing support could be provided to BCLN. For example, it may be desirable to arrange for UTLAS to continue to serve as the initial source of the cataloguing records, with the transfer of the records to BCLN in order to update the data base and, following that, the addition of other holdings in the BCLN data base. Establishing such an arrangement with UTLAS might serve as a prototype for eventual connections with the other utilities, OCLC, RLIN, and WLN.

The user servey carried out in this study brought to light some areas of user dissatisfaction. These user questionnaires should be shown to UTLAS and a plan should be devised between BCUC and UTLAS to deal with the problem areas. Some can best be dealt with by UTLAS and others by BCUC.

The down time logs revealed problems with system availability. The logs should be continued and a means for tracing down problems should be implemented. It does not do much good to trace down time problems three months afterwards, but it could be quite useful to trace the problems immediately. The results also show that everyone is not experiencing down time at the same time. This leads one to conclude that all the problems are not with the central cpu, but rather may be line, terminal, or modem problems. Someone in BCUC should be responsible for maintaining a continuing oversight of the problem tracing process carried out on the basis of existing arrangements with UTLAS and the carriers.

Given that B.C. is giving serious thought to replicating WLN with an increase in the total expenditures for automation, consideration should be given to increasing the monies spent with UTLAS in order to negotiate development priorities. BCUC could initiate the independent development of recommendations for the improvement of specific operations or the establishment of new systems. Since UTLAS organization and operation are based on a corporate, entrepreneurial model (in which all decisions are made within UTLAS), it is appropriate for BCUC to behave like a major customer (which it is) and attempt to influence strongly the nature of the UTLAS decisions. For example, assume acquisitions is of utmost importance to BCUC libraries, so much so that the B.C. government would be interested in spending extra money to speed and insure the development of the acquisitons system by UTLAS. Where UTLAS may give minimal credence to customers and their insistence on development priorities, UTLAS might be more inclined to listen if a customer had maney in their hand to pay for the additional development that they desire. It is an UTLAS policy not to apply directly for grants from government or philanthropic organizations, but they will accept monies from grants that their customers have acquired. For the duration of its use of UTLAS services, BCUC should work with UTLAS to obtain the highest performance levels for its libraries. Successful performance will be a credit to both organizations.

DETAILED PLAN & ESTIMATE - Design Step

Narrative

This section gives an overview of the schedule, resource (people) requirements and the number of hours effort required to complete the design step for this project. These estimates have been prepared by Ringgold and B.C.U.C. staff.

The following computer reports (milestone, status and bar graph) show the major tasks and activities in chronological sequence. Please see the detailed task descriptions which follow these reports, for further activity information.

Schedule - Design Step

Start Date: February 1, 1980
Finish Date: August 29, 1980

Resource (People) Requirements

Resource	No. Hours Effort	Percent Utilization
BCUC staff (4) *	2078	45.0
Library consultants (2) **	1669	80.7
Project Coordination (JEM)	150	-

* Includes Project Manager and Project Management time.
** Includes time for Project Management.

Plan Assumptions

1. That no contingency has been included for sickness or vacation, etc.
2. That meetings will be held when scheduled.
3. The start date of the project may vary depending on the sign-off approvals.
4. That the 2 library consultants will be utilized for 80% of their time.
5. It is assumed that approval for a provincial network will be obtained at the Ministers level.

C. DESIGN PHASE

Figure 26 lists the general activity categories for the work of the Design Phase. The person-hours of effort are listed for each category. Figure 27 is a detailed project plan with person time estimates and preliminary assignment of responsiblity for each of these eight categories. Figure 28 is a dependency diagram for all the detailed tasks listed in the project plan. Significant points in the plan are noted by larger circles. The dependancy diagram makes clear which activities can proceed at the same time, and which activities are dependent on the completion of earlier tasks.

If there is an a priori decision to have an independent computer organization operate the computer facility for the BC Library Network, then tasks 4.2100, 4.2150, and 4.2160 need not be performed. The remaining facility study tasks would still be required in that there are different computing facilities which might be used either on a shared or independent dedicated basis.

FIGURE 26

BCUC REPLICATION STUDY

TASK PLANNING FOR PHASE II -- DESIGN

	Hours of Effort	
General Task Categories	External	BCUC
1. Pilot projects using source institution's facilities - either DCBIS or WLN.	80	654
2. User and data base requirements and transfer of the existing BCUC data bases.	240	296
3. Analysis of benefits of acquisitions and interlibrary loan support	296	288
4. Comparison of DOBIS and WLN systems.	221	124
5. Selection of system for BCLN.	16	32
6. BCLN Policy - governance, organization, pricing and priorities.	192	232
7. Comparison of computing facilities - shared system or dedicated system.	284	56
8. Selection of preferred computing facility.	164	120
9. Project management and control.	176	276
TOTAL	1669	2078

FIGURE 27

BCUC REPLICATION STUDY

STEPS AND EFFORT FOR DESIGN PHASE

Task ID	Category	Name	Hours of Effort External	Hours of Effort BCUC
4.0000	9	Startup Organization of the project, arrangement for staffing, refinement of tasks, assignments & scheduling.	48	48
4.1100	1	Identify participants (2) for pilot project using the "parent" institution's system - DOBIS or WLN, to be selected during design. Contact possible libraries, establish size of the operations to be transferred, terminals needed, lead time required, ability of available library staff.	-	54
4.1110	1	Preliminary pilot project arrangements with both organizations operating DOBIS and WLN. Contact organizations with the two systems to establish possibility of pilot use of the system in situ, the requirements for such use, the costs and lead times. Make the preliminary arrangements for such use indicating the time frame for confirmation/ cancellation.	16	64
4.1120	1	Establish expected schedule for pilot project. Contact with participants, host institutions and UTLAS to establish feasible schedule for the start of the pilot project.	16	64

FIGURE 27 (cont.)

Task ID	Category	Name	Hours of Effort External	Hours of Effort BCUC
4.1130	2	Activity planning for the transfer of bibliographic and authority records. Contact with UTLAS for precise definition of the format and content of the machine readable bibliographic records. Analysis to determine the nature of any software modification necessary to use these records. Establish procedures for transfer, nature of staffing and level of effort.	48	–
4.1140	2	Schedule the transfer of bibliographic and authority records. Contact UTLAS to establish the timetable for extraction of the BCUC data base. Arrangements for assignment of staff and availability of computer capacity to make and test any software modifications and for the transfer of the data bases.	16	16
4.1150	3	Identify the BC libraries with potential interest in the acquisitions and interlibrary loan facilities expected in the BCUC Network. Prepare a concise functional description of the facilities to be provided and the expected requirements. Circulate these among the libraries and request expressions of interest in further investigation.	32	64

FIGURE 27 (cont.)

TASK ID	CATE-gory	NAME	HOURS OF EFFORT	
			External	BCUC
4.1160	3	Profile the libraries interested in these facilities with respect to their activity, staffing levels, and data processing.	32	64
4.1170	3	Carry out a hit rate analysis, using a detailed sample of VPL - current (435) and retro (500) on WLN.	8	32
4.1175	3	Planning for distributed data processing (e.g.-circ control). Provide a bkgd. paper on requirements.	48	16
4.1180	3	Set up a sampling system to identify the materials wanted in one library and determine whether they are available at that time in another library.	48	48
4.1190	3	Establish the costs of the acquisitions and interlibrary loan facilities.	32	32
4.1200	3	Summarize and report the net impact expected from these acquisitions and interlibrary loan facilities - including policy questions.	96	32
4.1210	4	Preparation for DOBIS analysis and selection of DOBIS versions. Review available DOBIS documentation. Contact NLC, College Bibliocentre to make arrangements for site visit. Review the features analysis forms for any modification.	40	16
4.1220	4	Trip to NLC, College Bibliocentre, IBM-Toronto, Ryerson for on site review of DOBIS operations.	40	-

FIGURE 27 (cont.)

Task ID	Cate-gory	Name	Hours of Effort External	Hours of Effort BCUC
4.1230	4	Summarization of information gathered from NLC and others.	24	-
4.1240	4	Review of DOBIS summarization by NLC and others.	2	-
4.1250	4	Establishment of available points to be given for features of replication - support provided, prior experience.	-	4
4.1260	4	Provide final form of the DOBIS features.	2	-
4.1270	4	Establish weighting of the DOBIS features and compare with the existing WLN weighting.	5	-
4.1280	4	Plan for the sampling of the DOBIS data base in order to establish match rate and search time.	4	16
4.1290	4	Carry out DOBIS data base searching	-	64
4.1300	4	Summarize DOBIS match rate and search time in comparison with WLN.	4	-
4.1310	4	Establish the computer configuration required for the operation of DOBIS as the BCUC Network system.	8	-
4.1320	4	Establish the BCUC staffing that will be required for operation of BCUC Network using DOBIS.	4	4
4.1330	4	Establish the start up requirements of the BCUC Network using DOBIS.	8	4
4.1335	4	Establish operations cost.	8	-
4.1340	4	Draft the report summarizing the comparison of DOBIS and WLN.	40	-
4.1350	4	Review the draft report.	12	16

FIGURE 27 (cont.)

Task ID	Category	Name	Hours of Effort External	Hours of Effort BCUC
4.1360	4	Prepare and submit final report comparing DOBIS and WLN.	20	-
4.1370	5	Present results of DOBIS, WLN comparison to BCUC community and discuss its implications.	8	16
4.1380	5	Review the results of the comparison with the BCUC management and oversight committees.	8	16
4.1390	5	BCUC selection of either DOBIS or WLN for the BCUC Network system.	-	-
4.1392	6	Provide recommendation on an approach to shared development of the system (DOBIS or WLN) in order to enhance the system. The results may be used in negotiations to obtain the system.	24	-
4.1396	6	Contract negotiation for system selected.	-	72
4.1400	1	Set up final schedule for a pilot project using the system at the parent institution. Contact the institution whose system is selected and make final arrangements for the pilot project. Contact the other institution to indicate choice and express thanks for assistance. Contact pilot libraries and UTLAS to verify schedule.	16	32
4.1410	1	Make arrangements for staff training in the use of the system, both library and BCUC staff.	-	16
4.1420	1	Set up project controls to collect information from the pilot operations.	32	32

FIGURE 27 (cont.)

Task ID	Category	Name	Hours of Effort External	 BCUC
4.1430	1	Carry out the staff training	-	320
4.1440	1	Arrange for staffing for the transfer of the library data bases from UTLAS to the pilot system.	-	32
4.1450	1	Assign staffing and begin the library data base transfer. This may require staff to modify existing software in order to make the transfer.	-	40
4.1460	1	Pilot operation reading, using facilities of the source institution.	-	-
4.200	2	Identify requirements for BC Library Network training. This training will be concerned both with library staff and with Network support staff.	16	32
4.2010	2	Examine available documentation and training aids and define extensions and improvements that are necessary or desirable and make revisions.	40	64
4.2020	2	Define requirements for transferring data bases from UTLAS to the BC Library Network and for maintaining these data bases, particularly the authority file.	32	16

FIGURE 27 (cont.)

Task ID	Category	Name	Hours of Effort External	Hours of Effort BCUC
4.2030	2	Identify variations in bibliographic standards and format specifications between existing BCUC data base and that of the system to be used. Develop recommendations covering content and format; full level and RECON standards.	-	64
4.2040	2	Identify and evaluate RECON service requirements separately applicable to the universities and new participants.	64	32
4.2050	2	Determine requirements and approach for maintaining the data base in the BC Library Network; central vs. distributed responsibility and procedures, committees, etc.	24	16
4.2060	2	Determine product specifications for existing BCUC products and develop plan and recommendations for converting these to the BC Library Network.	-	56
4.2100	7	Review and finalize the hardware/ software facilities required to operate the (DOBIS or WLN) system, data base, and applications.	12	-
4.2110	7	Identify the possible alternative sites for the computer facility. Make an initial exploratory visit to the alternative facilities and exchange available information on needs and capabilities.	32	8

FIGURE 27 (cont.)

Task ID	Category	Name	Hours of Effort External	Hours of Effort BCUC
4.2130	7	Develop an analysis of the communication system alternatives, trading off line costs, stand alone and clustered terminal costs, modem costs, front end processor costs and main frame costs.	56	-
4.2140	7	Provide recommendations on a telecommunications network, including alternatives for using existing equipment as well as new facilities.	24	-
4.2150	7	In depth, on site interviews of alternative organizations providing computing support. Assessment of equipment and staff availability and capacity and knowledge. Pricing structure.	48	24
4.2160	7	Supply written summarization of interview results to organization for review of factual content.	24	-
4.2170	7	Determine the operational and maintenance staffing requirements. Visit the facility of the system selected (DOBIS or WLN) in order to look at the programs and investigate the maintainability. Call and interview other locations having the software. Assess the capabilities of the alternative computing organizations to provide the staff support needed for maintenance.	32	-

FIGURE 27 (cont.)

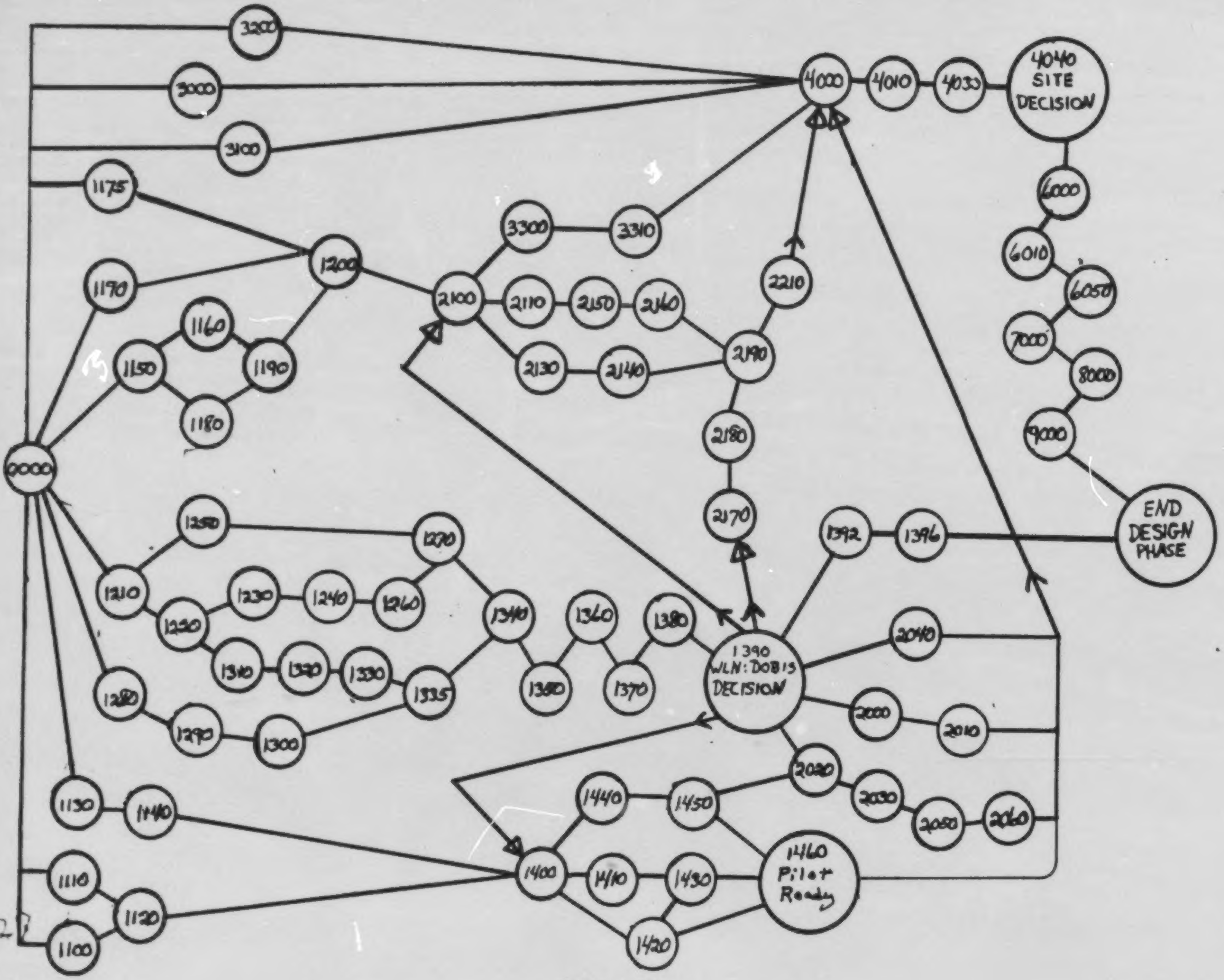
Task ID	Category	Name	Hours of Effort	
			External	BCUC
4.2180	7	Assess the maintainability of the system selected and related software required for the system. (see 4.2170)	24	-
4.2190	7	Determine projected costs for implementation and operation of the system on the alternative computing facilities.	40	-
4.2210	7	Identify pricing methods that might apply to the charging for the computing facilities and operations staff; and provide estimated or typical costs for operating a BC Library Network facility.	16	24
4.3000	6	Develop proposals for governance changes to move from BCUC to the BC Library Network, considering types of libraries, institutional limitations of the management contract for the BCUC office, multiple Provincial Ministries and any other factors impinging on governance.	48	16
4.3100	6	Examine alternatives for pricing of BC Library Network products and services. Develop comparative recovery schedules in respect to meeting the costs of computing resources consumed and providing incentives for participants' efficient use and maximizing sharing of resources. Recommend an approach and plan for the pricing of the products and services.	40	24

FIGURE 27 (cont.)

Task ID	Category	Name	Hours of Effort External	Hours of Effort BCUC
4.3200	6	Investigate potential and requirements for shared arrangements with other bibliographic utilities, UTLAS, WLN, DOBIS, etc., regardless of the system chosen for the BC Library Network.	-	40
4.3300	6	Determine performance criteria for the computing facility contract, specifying response times, system availability, system security, and other functional needs.	40	40
4.3310	6	Define the responsibilities and relationships between the BC Library Network and the contractor for the computing facility.	40	40
4.4000	8	Summarize results of investigations of computing facilities, communications requirements, etc., and prepare a draft report of the results.	64	-
4.4010	8	Review the draft report with BCUC management and oversight committees.	24	16
4.4030	8	Review final report with BCUC membership.	24	24
4.4040	8	BCUC decision and selection of preferred computing facility.	-	48
4.6000	9	On-going planning.	32	20
4.6010	9	Define the steps for Phase III -- Implementation	32	16
4.6050	8	Prepare final Design report.	24	-

FIGURE 27 (cont.)

Task ID	Cate- gory	Name	Hours of Effort	
			External	BCUC
4.7000	8	Review Design report PRC.	16	32
4.8000	8	Modify document.	12	-
4.9000	8	Design document sign off.	-	-
4.9999	9	Project management; e.g., PRC meetings, meetings with BCUC committees, project reviews.	64	192


3200
3000
3100
1175
4000
4010
4030
4040 SITE DECISION
6000
6010
6050
7000
8000
9000
3300
3310
1200
1190
2100
2110
2150
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2210
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1390 WLN:DOBIS DECISION
1392
1396
END DESIGN PHASE
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2050
2060
1130
1140
1440
1450
1400
1410
1430
1420
1460 Pilot Ready
1110
1120
1100

FIGURE 28
DESIGN PHASE TASK DEPENDENCE DIAGRAM

D. IMPLEMENTATION PHASE

Tasks and time estimates are shown in Figure 29; dependencies are in Figure 30. The total calendar time for the critical path activities of the implementation plan is 14-20 months. Note that this is the time for the critical path activities only and assumes staff resources will be available when needed.

Finally, Figure 31 is a partial list of the modifications and enhancements that may need to be done on the WLN software either during implementation or after. No attempt has been made to estimate person effort to complete the work, nor to schedule the work. It is likely that WLN will complete some of this work before the B.C. Library Network has need for the changes. In any event, the staffing plan for BCLN includes staffing to continue the development of the library applications.

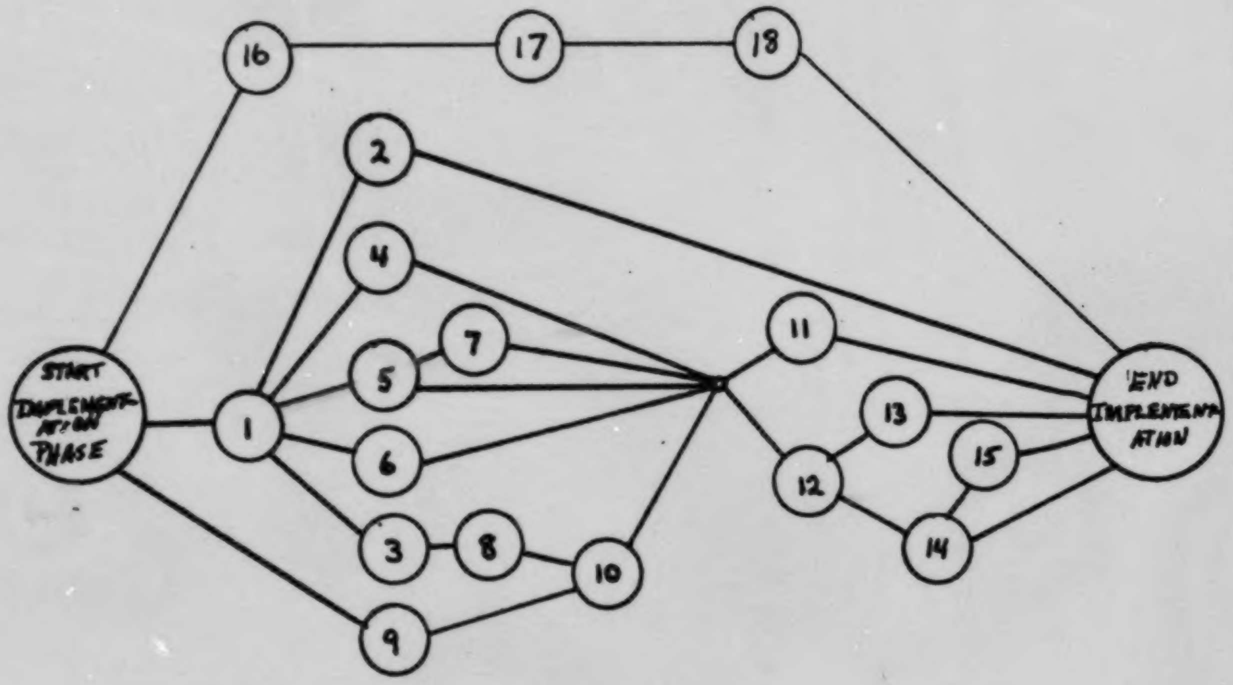
FIGURE 29

BCUC REPLICATION STUDY

STEPS AND ESTIMATES FOR IMPLEMENTATION PHASE

		Hours of Effort	Calendar Months
1.	Negotiate contract with computer site.	10	1-2
2.	Hiring and training BCUC staff for replications.	80	9-12
3.	Acquire any needed additional hardware for the BC computer site.	10	6-9
4.	Acquire terminals modems, telephone contention units, telephone units.	5	6-9
5.	Order and install additional system software necessary to run WLN, e.g. CICS and ADABAS.	130	6-6
6.	Computer staff training - CICS, ADABAS, WLN (Send BC computer staff to WLN for training in Pullman).	80	1-2
7.	Load and test WLN software components in BCUC computer site.	390	7-9
8.	Load WLN files - authority and bibliographic.	40	2-3
9.	Obtain copy of UTLAS/BCUC files.	5	3-6
10.	Load UTLAS/BCUC files. Steps involved: Reformatting UTLAS files Creating index entries Eliminating duplicates with bib data between WLN and UTLAS/BCUC Eliminate duplicates with authority files between WLN and UTLAS	30	2-3
11.	Program accounting scheme if need be.	60	3-5
12.	Set up bibliographic review unit and procedures.	120	2-2
13.	Begin manual review by bibliographic review group of the UTLAS/BCUC records both bibliographic and authority headings.	Opns	
14.	Check and test replicated system with some BCUC libraries before leaving UTLAS completely.	Opns	3-4
15.	Reprofile the other BCUC libraries.	60	3-4
16.	Begin pilot operation, using facilities of the source institution.		-
17.	Monitor pilot operation to determine operating results, documentation needs, training needs, system enhancement needs.		112
18.	Produce monthly reports summarizing the operating results with the system.		48
	GRAND TOTAL, Implementation (excluding operations)	1180	14-20 (1)

(1) This is the total elapsed time, for the critical path. It is *not* a total for the column.


16
17
18
2
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7
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START
IMPLEMENT-
ATION
PHASE
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END
IMPLEMENTA-
ATION
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9

FIGURE 30

IMPLEMENTATION PHASE TASK DEPENDENCE DIAGRAM

FIGURE 31

POTENTIAL MODIFICATIONS AND ENHANCEMENTS FOR THE WLN SYSTEM

A. Modifications necessary for installation of current system

1. Communications modification
    a. Possible modification of the 370X communications controller and terminals for the MARC character set.
    b. Possible modification of the 370X communications controller to handle the Hazeltine terminals
2. Implementation of the new multi-threaded version of ADABAS
3. Implementation of CICS-VS and possible modification of CICS to handle Hazeltine terminals as done by WLN.
4. Implementation of replacement of WYLBUR or enhancement of Stanford version of WYLBUR for the following functions:
    a. Accounting of system usage for customer billing
    b. Remote job entry set-ups for standard WLN batch jobs
    c. General job stream maintenance of WLN programs
    d. Means to monitor job and program execution
5. Changes to record routing tables to eliminate mandatory final manual review of record and subsequent release prior to inclusion into the bibliographic data base.
6. Loading of CAN MARC and BCUC bibliographic, authority, and holdings records.

B. System modifications needed after implementation

1. Ability to load data base records from other networks, such as UTLAS, OCLC, RLIN, WLN.
2. Ability to generate records for inclusion in other networks, such as UTLAS, OCLC, RLIN, WLN.
3. Ability to communicate with the on-line search services, such as Lockheed, SDC.

C. Applications modifications and enhancements

1. Modify software to load and process CAN MARC records.
2. Enhance COM formatting capabilities.
3. Enhance authority programs to load LC MARC and NLC authorities subscription tapes.
4. Enhance authority control programs to process the MARC authorities structure.
5. Enhance the authority control programs to automatically check for exclusion or modification of headings.
6. Enhance catalog system to process and display detailed holdings.
7. Add an interlibrary loan request and response module.
8. Modify search for use by the general public.

Figure 31 (con't)

POTENTIAL MODIFICATIONS AND ENHANCEMENTS FOR THE WLN SYSTEM (continued)

C. Applications modifications and enhancements (continued)

9. Modify the acquisitions programs to enable currency conversions.

10. Modify the acquisitions programs to block overencumbering at pre-set percentages.

11. Add further management reports to the acquisitions system.

12. Modify the acquisitions programs to streamline order input, to group orders by vendor as an option, to print orders remotely at the library, to generate tapes to vendors directly, or to communicate directly with vendors.

12. Modify acquistions programs to allow searching of the vendor file.

13. Develop serials control as a subsystem.

14. Develop mainframe - mini communications for circulation, acquisitions, and eventally serials control.

EXECUTIVE OVERVIEW

The feasibility substudy was carried out in order to examine the economic feasibility of replicating the system and data base of the Washington Library Network and to compare this with the continued use of the University of Toronto Library Automation Services (UTLAS) system.

The costs and operating features of the two systems were compared. Users of the two systems were surveyed for their attitudes toward the two systems. The availability of desired cataloguing information was tested in the two systems and the amount of time required for the use of the systems was observed.

It is economically feasible to replicate the Washington Library Network system and data base, given the planned expansion of cataloguing services to include authority control and the expected expansion of BCUC membership in 1980/81. Amortizing all initial startup costs of the replication, the annual costs of the replicated facility are estimated to be $2,080,000 per year, which is $150,000 less than estimated expenditures for comparable UTLAS services. In addition to cataloguing support, the WLN replicated facility could provide support to acquisitions and interlibrary loan for an additional cost of $400,000 per year.

It is recommended that the province establish a British Columbia Library Network, based upon the present BCUC organization, and a supporting bibliographic utility to provide the full range of computer based services to all of the libraries of British Columbia. The next step of the project is recommended to be the Design Phase in which the following will be performed:

planning of a pilot project
comparison of the WLN system with the IBM DOBIS system(s)
establish user and data base requirements
analyse benefits of support to acquisitions and interlibrary loan
establish the BCLN structure and operating policies
compare and select the computing facilities to support BCLN.

APPENDIX A

SURVEY OF UTLAS AND WLN LIBRARIES TABULATION

"BRIEF ANSWERS"

FROM QUESTIONNAIRE

System UTLAS

Question	BBY	BCI	CAM	CAP	CAR	DTU
	LIBRARY					
A. SYSTEM USAGE						
1. How long has your institution used the system? _______months.	5-1/2	22	9	11	11	13
2. How many terminals does your institution have?	1	1+1 hour/day on another terminal	1	1	1	1
3. How many printers?	1	1	1	1	1	1
4. How are you connected? dial up _______ leased line ______.	leased line	leased line		dial up	dial up	dial up
5. What is your communication speed? 300 baud, 1200, 2400, 4800 baud?	300 baud	300 baud	300 baud	300 baud	300 baud	300 baud
6. How many hours per day is each terminal in use?	4	9 hrs + 1 hr. on another terminal that is not dedicated to cataloguing	4-1/2	5	4	approx. 4-½
7. How many days per week is each terminal in use?	5	5	5	5	5	5
8. How many titles did your institution catalogue last year?	9179	11594	3000	2800	about 4200	1311
9. How many volumes were added by your institution last year?	31375	12486	3500	3000	6093	1717
10. If you have a retrospective conversion program, how many titles did you convert last year?	N/A	28,000 v. rough does not include full text coded or AV	27,000	50,000	about 34-35,000 records (edited or unedited) are now in the system	approx. 30,000
11. What volume of other activity was done on the system last year?						
Pre-order searching	-	None		X	N/A	-
Interlibrary loan	-	None	X		N/A	-
Reference	-	None		N/A	N/A	-
Other	-				N/A	-

System UTLAS

Question	FVC	JIN	LEG	MAL	NCA
			LIBRARY		
A. SYSTEM USAGE					
1. How long has your institution used the system? _______ months.	11	6	8	10	11
2. How many terminals does your institution have?	1	1	1	1	1
3. How many printers?	1	1	1	1	1
4. How are you connected? dial up _______ leased line ______.	dial up	dial up	dial up	dial up	dial up
5. What is your communication speed? 300 baud, 1200, 2400, 4800 baud?		300 baud	300 baud	300 baud	300 baud
6. How many hours per day is each terminal in use?	3 - 5	Varies due to staff turnovers; sch. not yet established	Ave. 2.2 hrs.	6	Av. 2 hrs (has been more in the last few months with recon-: [illegible] related
7. How many days per week is each terminal in use?	5	Same as above	5*1	5	5
8. How many titles did your institution catalogue last year?	5000	N/A	2165(1978)	3200	3920*2
9. How many volumes were added by your institution last year?	6000	N/A	2103(1978)	800	4500*2
10. If you have a retrospective conversion program, how many titles did you convert last year?	20000	N/A	Approx. 4000 (1979-project not yet completed)	3800	41000
11. What volume of other activity was done on the system last year?					
Pre-order searching	No	N/A		-	-
Interlibrary loan	No	N/A		-	Demo only (10-15 titles)
Reference	No	N/A		-	-
Other	No	N/A		-	-

*1 This has recently changed. By arrangement with Camosun College, we now use system on 4 days per week. We still ave. 11-12 hrs. per week.

*2 Our average is 6,000/yr. Last year's current cataloguing was low because staff were occupied with Recon work.

System UTLAS

Question	LIBRARY OKC	RPL	SEL**	SFU	SLC
A. SYSTEM USAGE					
1. How long has your institution used the system? _______months.	11	14	7	24	8
2. How many terminals does your institution have?	1	1		3	1 (plus use of 1)
3. How many printers?	1	1	-	3	Both are print term. as opposed to CRTs.
4. How are you connected? dial up _______ leased line ______.	dial up	dial up		leased line	dial up
5. What is your communication speed? 300 baud, 1200, 2400, 4800 baud?	300 baud	300 baud		300 baud	300 baud
6. How many hours per day is each terminal in use?	3	7		7-8	5-8(total)
7. How many days per week is each terminal in use?	5	5		5	5
8. How many titles did your institution catalogue last year?	need definition of last year	8031	2500^{x}	18,000	ca 5000 since Jan
9. How many volumes were added by your institution last year?	approx. 4000	22295	3020^{x}	26,600	N/A
10. If you have a retrospective conversion program, how many titles did you convert last year?	Jan-Dec 1978 - 3,000 (working from Nov)	Nil. RECON in process 1979.		30,500	N/A
11. What volume of other activity was done on the system last year?					
Pre-order searching	-	Nil		No	N/A
Interlibrary loan	-	Nil		Occasionally	N/A
Reference	-	Nil		No	N/A
Other	-	Nil		-	N/A

** Same as DTU, except when noted.

System UTLAS

Question	LIBRARY UBC	VCC	VIC	DOC
A. SYSTEM USAGE				
1. How long has your institution used the system? _______ months.	20	April 1978	19	21
2. How many terminals does your institution have?	12(7 registered)	2	4	1
3. How many printers?	11	2	4	1
4. How are you connected? dial up _______ leased line _______.	leased line	leased line	leased line	dial-up
5. What is your communication speed? 300 baud, 1200, 2400, 4800 baud?	300 baud	300 baud	300 baud	300 baud
6. How many hours per day is each terminal in use?	6 (average)	approx 4-5	7(presumably you mean scheduled to be in use)	11
7. How many days per week is each terminal in use?	5	5	5	5
8. How many titles did your institution catalogue last year?	57,039	7,500	40,000 (Exclusive of serials)	6532
9. How many volumes were added by your institution last year?	88,435	2,500	40,450 (Exclusive of serials)	1306 (and 1710 added copies)
10. If you have a retrospective conversion program, how many titles did you convert last year?	562 (began in January)	58,000	None in fiscal 78/79	35,000 to 40,000 approximately
11. What volume of other activity was done on the system last year?				
Pre-order searching	0		None	
Interlibrary loan	0		None	
Reference	0		None	
Other	0		None	None

System UTLAS

Question	DC
A. SYSTEM USAGE	
1. How long has your institution used the system? ______ months.	21 mo.
2. How many terminals does your institution have?	1
3. How many printers?	1
4. How are you connected? dial up ______ leased line ______.	dial up
5. What is your communication speed? 300 baud, 1200, 2400, 4800 baud?	300 baud
6. How many hours per day is each terminal in use?	11
7. How many days per week is each terminal in use?	5
8. How many titles did your institution catalogue last year?	6532
9. How many volumes were added by your institution last year?	1306 (& 1710 added copies)
10. If you have a retrospective conversion program, how many titles did you convert last year?	35-40,000 approx.
11. What volume of other activity was done on the system last year?	
Pre-order searching	
Interlibrary loan	
Reference	
Other	none

System UTLAS

Question	LIBRARY BBY	BCI	CAM	CAP
B. IMPLEMENTATION OF THE SYSTEM IN YOUR INSTITUTION.				
1. How many hours of initial training are needed to become familiar with the System to operate a terminal?	6	3-4 days	Possibly 10-15	20 hours
2. How many people from your institution were involved in the initial training?	1 - myself	4 people	2	2
3. Did the Central System Staff provide the initial training?	BCUC did	Yes	BCUC did	Yes
4. How many hours of training were provided?	6	3 days	Possibly 10	2-day sessions
5. Were there follow-up sessions?	No	Yes (from Project Office)	No	No
6. How many hours of follow-up training?	I trained the rest of my staff about 6 hrs each.	3 days +	--	No
7. Are there areas where you would like further training?	No		Do you mean dealing with terminal operation?	Not particularly
11. Did you make changes to your facility to prepare for the installation of the terminal, modem, and/or telephone?	Yes	No	No	Yes
13. Were you advised of the need for these changes beforehand?	No	N/A		No
14. Have you made changes since the installation of the equipment?	No	No	No	Yes
16. Did anyone visit at the time of the first terminal installation?	No	No	Yes	Yes(Lyn Rosen)
17. Did someone provide instructions on how to set up the terminal, etc.	No	BC Tel. set it up	Yes	No
18. Did you supplement the User Manuals with further instructions?	No	Yes	Yes	Yes

System UTLAS

Question	CAR	DTU	FVC	JIN	LEG
			LIBRARY		
B. IMPLEMENTATION OF THE SYSTEM IN YOUR INSTITUTION.					
1. How many hours of initial training are needed to become familiar with the System to operate a terminal?	4-5	16 hrs ?		Depends on prev. exp. & know. of term. opr. Usually, a month before an oper. can be left on his/her own.	3-4
2. How many people from your institution were involved in the initial training?	1	1	1	None, we each rec'd separate train. elsewhere	2
3. Did the Central System Staff provide the initial training?	Yes	No	Yes	No	Yes (BCUC staff
4. How many hours of training were provided?		16	6		2 days (10 hrs.)
5. Were there follow-up sessions?	No	No	No	Yes	Yes
6. How many hours of follow-up training?	-		None	8 hrs	2 hours
7. Are there areas where you would like further training?	Only as new features are introduced	Yes	Yes-browsable index	Yes	Yes
11. Did you make changes to your facility to prepare for the installation of the terminal, modem, and/or telephone?	Yes	Yes	Minor changes only; no structural changes rearrang. of furniture	Very few	Yes
13. Were you advised of the need for these changes beforehand?	Yes	Yes	Very short notice	Yes-space required	Yes
14. Have you made changes since the installation of the equipment?	No	Yes (slight)	No	No	Yes
16. Did anyone visit at the time of the first terminal installation?	No	Yes	No	BC Tel Customer Scv. rep & Leigh Swain	Yes
17. Did someone provide instructions on how to set up the terminal, etc.	Yes	Yes	No	BC Tel (no other inst. was needed)	Yes
18. Did you supplement the User Manuals with further instructions?	Yes	Yes	Annotated manual	Yes	Yes

System UTLAS

Question	MAL	NCA	OKC	RPL	SEL**
			LIBRARY		
B. IMPLEMENTATION OF THE SYSTEM IN YOUR INSTITUTION.					
1. How many hours of initial training are needed to become familiar with the System to operate a terminal?	2 days	At least 1 week, spending time in each processor and doing actual work	3-6	?	
2. How many people from your institution were involved in the initial training?	1	1	1	2	
3. Did the Central System Staff provide the initial training?	Yes	No-provided by BCUC	Yes		
4. How many hours of training were provided?	3	5	8-10	about 10	
5. Were there follow-up sessions?	1	Yes	No	Yes	
6. How many hours of follow-up training?	2	2	None	about 2	
7. Are there areas where you would like further training?	Yes	-	Yes	Yes	
11. Did you make changes to your facility to prepare for the installation of the terminal, modem, and/or telephone?	Yes	No	Not substantially	Yes	
13. Were you advised of the need for these changes beforehand?	Yes	-		No	
14. Have you made changes since the installation of the equipment?	No	No	Yes	No	
16. Did anyone visit at the time of the first terminal installation?	Yes	No	No	No	
17. Did someone provide instructions on how to set up the terminal, etc.	No	No, some tech info supplied by BC Tel.	No	No	
18. Did you supplement the User Manuals with further instructions?	No	Yes	No	No	

** Same as DTU, except as noted.

System UTLAS

			LIBRARY		
Question	SFU	SLC	UBC	VCC	VIC
B. IMPLEMENTATION OF THE SYSTEM IN YOUR INSTITUTION.					
1. How many hours of initial training are needed to become familiar with the System to operate a terminal?	1 week	5	10-12	2 days to operate terminal based on TOG	Question ambiguous Training for what aspect?
2. How many people from your institution were involved in the initial training?	21	2	We trained about 70 staff members init. 2did most training	7	6
3. Did the Central System Staff provide the initial training?	Yes	No	BCUC Pro. Office provided 1½ weeks for people who were going to train staff	BCUC	BCUC librarian provided training.
4. How many hours of training were provided?	20 hrs	None	12 hrs/person	1½ days	5
5. Were there follow-up sessions?	Demo of new techniques	No	On individual basis all work checked	2	1
6. How many hours of follow-up training?	6	N/A	Varied-ind. need	Cannot recall	3-4
7. Are there areas where you would like further training?	No	No	Not at present; will train as system changes	Yes	No
11. Did you make changes to your facility to prepare for the installation of the terminal, modem, and/or telephone?	Yes	Yes	Yes	Yes	
13. Were you advised of the need for these changes beforehand?	Yes	No	Yes	Yes	
14. Have you made changes since the installation of the equipment?	No	No	Yes	Moved quarters	Yes
16. Did anyone visit at the time of the first terminal installation?	Yes	No	No	BC Tel man	No
17. Did someone provide instructions on how to set up the terminal, etc.	Yes	No	Our own systems staff	Systems	No,Library Systems Analyst supv. inst.
18. Did you supplement the User Manuals with further instructions?	Yes	Yes	Yes	Yes!our own	Yes

System UTLAS

Question	DC
B. IMPLEMENTATION OF THE SYSTEM IN YOUR INSTITUTION.	
1. How many hours of initial training are needed to become familiar with the System to operate a terminal?	roughly 25 hrs.
2. How many people from your institution were involved in the initial training?	5
3. Did the Central System Staff provide the initial training?	No, BCUC trained
4. How many hours of training were provided?	roughly 25 hrs.
5. Were there follow-up sessions?	yes
6. How many hours of follow-up training?	can't remember
7. Are there areas where you would like further training?	----
11. Did you make changes to your facility to prepare for the installation of the terminal, modem, and/or telephone?	yes
13. Were you advised of the need for these changes beforehand?	yes
14. Have you made changes since the installation of the equipment?	yes
16. Did anyone visit at the time of the first terminal installation?	yes
17. Did someone provide instructions on how to set up the terminal, etc.	yes
18. Did you supplement the User Manuals with further instructions?	no

System UTLAS

	LIBRARY				
Question	BBY	BCI	CAM	CAP	CAR
C. CATALOGUING PRACTICE					
3. What is the most frequently used searching algorithm (e.g. title only, title and author)?	LCCN and/or ISBN	LCCN and ISBN	ISBN, LCCN, short title	Title	LCCN
4. Typically, how many matches result from a search?	85%	Varies too much	95%	8 out of 10, sometimes 7	?
8. What percentage of the titles catalogued per year are found in the data base?	90%	96% (very rough)	95%	90%(book material) 15%(AV materials)	Estimate 98%
9. What percentage of those found in the data base need modification?	40%	10% (very rough)	70%*1	50%(book material) 90% (AV materials)	Estimate 80%
10. What percentage of the titles catalogued per year must be added as original cataloguing to the data base?	10%	Last year we we added 1.5%	5%	10%(book material) 85%(AV materials)	2%
15. How many titles that match records in the data base can be processed by an experienced operator in one hour?	20-24	between 10-15, but perfect matches are rare!	25-30	20	30
16. How many titles can be input by an experienced operator in one hour?	10-12	6	10-30 depending if the titles are orig. input or not.	3	10
19. Does your institution maintain a separate authority control system or does your institution rely on the System?	Separate	Neither has authority control.		Rely on the system	Only "authority" system we have is a card file on call #s for Canadian authors (literature)

*1 This does not include the entry of the local fields. A high modification rate is based on the numerous changes that are made on a record found within the data base. These records usually are records that are only found at UNI or CLL.

System UTLAS

Question	LIBRARY DTU	 FVC	 JIN	 LEG	 MAL
C. CATALOGUING PRACTICE					
3. What is the most frequently used searching algorithm (e.g. title only, title and author)?	ISBN	ISBN,LCCN	1. LCCN/ISBN 2. Title	1. LC Card number 2. ISBN	ISBN,LCCN*1
4. Typically, how many matches result from a search?	85-90%	around 85%	At least 5	*2	
8. What percentage of the titles catalogued per year are found in the data base?	80-85%	upwards of 80%	Roughly 85% of our titles to date	80%*3	85%
9. What percentage of those found in the data base need modification?	68%	60%	60%	80%	75%
10. What percentage of the titles catalogued per year must be added as original cataloguing to the data base?	15-20%	around 15%	Roughly 10% (Since some turn up in the data base when later search is done)	20%(actually 15% so far)	15%
15. How many titles that match records in the data base can be processed by an experienced operator in one hour?	20-25		20	about 20	?
16. How many titles can be input by an experienced operator in one hour?	6-8		6	about 10	
19. Does your institution maintain a separate authority control system or does your institution rely on the System?	Separate manual authority file	System	System	Our own authority file (card file)	-

*1 Absolutely no instructions received to date as to this facility!

*2 We've never worked this out; it wouldn't seem to be a very useful figure for exact key searches.

*3 Actually 85% so far, but only because the backlog of "unsearchable" books has been growing.

System UTLAS

	LIBRARY				
Question	NCA	OKC	RPL	SEL**	SFU
C. CATALOGUING PRACTICE					
3. What is the most frequently used searching algorithm (e.g. title only, title and author)?	*1	ISBN and LCCN	ISBN		LC card number, ISBN, title
4. Typically, how many matches result from a search?	Ave. 8 "hits" per hit list	8 out of 10 (80%)	More than 1		Up to 90% for current material
8. What percentage of the titles catalogued per year are found in the data base?	90%	80%	90% ?		About 65% last fiscal year
9. What percentage of those found in the data base need modification?	50%	40%	@ half		50%
10. What percentage of the titles catalogued per year must be added as original cataloguing to the data base?	10%	20%	10% ?		35%
15. How many titles that match records in the data base can be processed by an experienced operator in one hour?	40(edit)	20	15-20		8-10
16. How many titles can be input by an experienced operator in one hour?	30(orig.)	15	About 10. I usually don't do enough to judge		8
19. Does your institution maintain a separate authority control system or does your institution rely on the System?	Present cat. serves as "authority"	No	Separate authority file		Yes, our own separate control system

* 1 Since we are not using REfCates a great deal until we can get some documentation, I can only only answer to how we use the edit processor: LC, ISBN major keys; title next.

** Same as DTU, except as noted.

System UTLAS

Question	LIBRARY SLC	 UBC	 VCC	 VIC
C. CATALOGUING PRACTICE				
3. What is the most frequently used searching algorithm (e.g. title only, title and author)?	LCCN	Standard number (LC Card number most frequently)	Title	LCCN, ISBN, title - in that order (These are the only accesses implemented for BCUC libraries)
4. Typically, how many matches result from a search?	60%	No idea-we have never studied this		Very ambiguous question[*1]
8. What percentage of the titles catalogued per year are found in the data base?	60%	68%	80%	Not more than 50%
9. What percentage of those found in the data base need modification?	50%	71%[*2]	65%	45%
10. What percentage of the titles catalogued per year must be added as original cataloguing to the data base?	30%	28%	Approx. 10-15%	Around 50%
15. How many titles that match records in the data base can be processed by an experienced operator in one hour?	30 (if no changes required)	Estimate 8 but it varies widely	20 down to 8	We don't edit on line. Not cost effective.
16. How many titles can be input by an experienced operator in one hour?	6	8		10-15
19. Does your institution maintain a separate authority control system or does your institution rely on the System?	No separate authority file system.	Separate authority control system (manual)	Retained our "Card" AF	Maintain separate control.

[*1] Hit rate on current imprints including documents is about 50%. Many categories we don't even take against data base. (Time input compared to yield too small.)

[*2] We have just reviewed our editing practices and identified a number of "cosmetic" changes to to records that we will no longer make. This may reduce this figure a little.

System UTLAS

Question		DC
C.	CATALOGUING PRACTICE	
3.	What is the most frequently used searching algorithm (e.g. title only, title and author)?	LCCN, ISBN or precise title
4.	Typically, how many matches result from a search?	----
8.	What percentage of the titles catalogued per year are found in the data base?	91%
9.	What percentage of those found in the data base need modification?	24%
10.	What percentage of the titles catalogued per year must be added as original cataloguing to the data base?	9%
15.	How many titles that match records in the data base can be processed by an experienced operator in one hour?	12
16.	How many titles can be input by an experienced operator in one hour?	7
19.	Does your institution maintain a separate authority control system or does your institution rely on the System?	use own manually controlled authority files

System UTLAS

	LIBRARY				
Question	BBY	BCI	CAM	CAP	CAR
D. SYSTEM SUPPORT					
6. What percentage of your calls result in an immediate answer?	50%	Most	50%	90%	70-80%
7. What percentage of your calls require a return call with the answer by the System Staff?	50%		50%	10%	20-30%
8. What percentage of your calls are never completely answered by the System Staff?	None so far		5%	--	Very few are answered to our full satisfaction
E. SYSTEM OPERATIONS					
1. Do system failures cause operating problems in the library?	Yes	Yes, of course		Yes	Yes

System UTLAS

Question	LIBRARY DTU	FVC	JIN	LEG	MAL
D. SYSTEM SUPPORT					
6. What percentage of your calls result in an immediate answer?	50%	Has improved with new up.	95%	20%(?)	70%
7. What percentage of your calls require a return call with the answer by the System Staff?	50%	Almost all	5%	55%(?)	30%
8. What percentage of your calls are never completely answered by the System Staff?	20%	90%	0%	25%(?)	--
E. SYSTEM OPERATIONS					
1. Do system failures cause operating problems in the library?	Yes	Yes	Minimally	Yes, but no more than anticipated.	Enormous

System UTLAS

Question	NCA	OKC	RPL	SEL**	SFU
		LIBRARY			
D. SYSTEM SUPPORT					
6. What percentage of your calls result in an immediate answer?	20%	10%			20%
7. What percentage of your calls require a return call with the answer by the System Staff?	80%	40%			80%
8. What percentage of your calls are never completely answered by the System Staff?	None (p.s. this doesn't mean we are always happy with answers!	10%			--
E. SYSTEM OPERATIONS					
1. Do system failures cause operating problems in the library?	No-we have very few system failures to report, possibly because we are scheduled into the 12:30-5 p.m. (afternoon)slot.	Yes	No-we can usually do something else		Yes

** Same as DTU, except as noted.

System UTLAS

Question	LIBRARY SLC	UBC	VCC	VIC
D. SYSTEM SUPPORT				
6. What percentage of your calls result in an immediate answer?	50%	10%		Very few, delays in obtaining answers are very costly to staff time
7. What percentage of your calls require a return call with the answer by the System Staff?	40% (call or letter)	90%	Most	Almost all*1
8. What percentage of your calls are never completely answered by the System Staff?	10%	10%	1%	A variety of coding and performance problems have never received full answers
E. SYSTEM OPERATIONS				
1. Do system failures cause operating problems in the library?	Yes	Yes	Yes	Yes

*1 Part of the reason is, of course, the time difference between Victoria and Toronto. Can't get hold of the person we want when we want.

System UTLAS

Question	DC
D. SYSTEM SUPPORT	
6. What percentage of your calls result in an immediate answer?	50%
7. What percentage of your calls require a return call with the answer by the System Staff?	50%
8. What percentage of your calls are never completely answered by the System Staff?	none
E. SYSTEM OPERATIONS	
1. Do system failures cause operating problems in the library?	occasionally

System WLN

	LIBRARY				
Question	ANC	ALA	BOI	ECC	EVE
A. SYSTEM USAGE					
1. How long has your institution used the system? _______months.	6	4	5	2	24
2. How many terminals does your institution have?	2	1 (1 on order)	2	1	1
3. How many printers?	0(1 on order)	0-(1 hoped for)	1	0	0
4. How are you connected? dial up _______ leased line ______.	leased line	leased line	leased line	leased line	leased line
5. What is your communication speed? 300 baud, 1200, 2400, 4800 baud?				?	4800 baud
6. How many hours per day is each terminal in use?	8	11-1/2	8	2	12
7. How many days per week is each terminal in use?	5	5	5	5	5
8. How many titles did your institution catalogue last year?	Not on WLN	15,500	12,00(800 using WLN)	N/A	7,000
9. How many volumes were added by your institution last year?	Not on WLN	15,500	14,00(1000 using WLN)	N/A	8,400
10. If you have a retrospective conversion program, how many titles did you convert last year?	0		16,500	0	17,000
11. What volume of other activity was done on the system last year?			We did not begin using system for acquisitions, ILL or not until after July 1.		
Pre-order searching				N/A	None
Interlibrary loan				N/A	app. 3000 searches
Reference				N/A	Unknown-small no of searches
Other				N/A	

System WLN

Question	CON	IDA	KIN	PIE
A. SYSTEM USAGE				
1. How long has your institution used the system? _______ months.	5	4	23	7 years
2. How many terminals does your institution have?	1	2	4-(2-cataloguing, 1-ref, 1-acq.)	3
3. How many printers?	1	1	0	0
4. How are you connected? dial up _______ leased line ______.	Leased line	Leased line	Leased line	Leased line
5. What is your communication speed? 300 baud, 1200, 2400, 4800 baud?				4800 baud
6. How many hours per day is each terminal in use?	12	10-12 hrs	8-5 p.m. as needed	Bib-5; Ref #1 - as needed-maybe 3 or 4; Ref #2 - N/A
7. How many days per week is each terminal in use?	5	5	5	Bib-4; Ref #1 - 5; Ref #2 -5
8. How many titles did your institution catalogue last year?		13,000	10,192	4,445
9. How many volumes were added by your institution last year?			52,448	27,751
10. If you have a retrospective conversion program, how many titles did you convert last year?		None	Our retro. is on mag. tape & was converted to MARC by Blackwell & is being reviwed by WLN	4,910(Oct.-Dec)
11. What volume of other activity was done on the system last year?				
Pre-order searching			.039%	9500
Interlibrary loan	X		.141%	10,745 titles searched
Reference	X		.031%	Did not have this terminal
Other	Acquisitions (began June 79)			

System WLN

Question	LIBRARY WAL	WAS
A. SYSTEM USAGE		
1. How long has your institution used the system? _______months.	13	24
2. How many terminals does your institution have?	1	11
3. How many printers?	0	2
4. How are you connected? dial up _______ leased line ______.	Leased line	Leased line
5. What is your communication speed? 300 baud, 1200, 2400, 4800 baud?	Don't know	
6. How many hours per day is each terminal in use?	6	10
7. How many days per week is each terminal in use?	??	5
8. How many titles did your institution catalogue last year?	1,500	20,000 (processed in TSD)
9. How many volumes were added by your institution last year?	1,500	22,401 (processed in TSD)
10. If you have a retrospective conversion program, how many titles did you convert last year?	11,000	Serials 1,000
11. What volume of other activity was done on the system last year?		
Pre-order searching	0	30,000
Interlibrary loan	10%	Minimal
Reference	10%	Minimal (on line)
Other	80%	25,000

System WLN

Question	ANC	ALA	BOI	ECC
	LIBRARY			
B. IMPLEMENTATION OF THE SYSTEM IN YOUR INSTITUTION.				
1. How many hours of initial training are needed to become familiar with the System to operate a terminal?	8	2 training sessions 7 hrs each + practice	5	5 or 6
2. How many people from your institution were involved in the initial training?	3	8	12	3
3. Did the Central System Staff provide the initial training?	Yes	WLN	PNBC	Yes
4. How many hours of training were provided?	8	About 14 hrs total in 2 sessions	10	6
5. Were there follow-up sessions?	Yes	No	Yes	N/A
6. How many hours of follow-up training?	8		8	N/A
7. Are there areas where you would like further training?	Training was adequate	Not yet	We are to receive add. training in MARC tagging for serials & films	N/A
11. Did you make changes to your facility to prepare for the installation of the terminal, modem, and/or telephone?	Yes	All 3 were installed	Yes	Yes
13. Were you advised of the need for these changes beforehand?	Yes	Yes	Yes	Yes
14. Have you made changes since the installation of the equipment?	Yes	No	No	No
16. Did anyone visit at the time of the first terminal installation?	No	No	Yes	Yes
17. Did someone provide instructions on how to set up the terminal, etc.	Yes	Phone call to WLN Computer staff from from our tel. people	Yes	Set up by WLN
18. Did you supplement the User Manuals with further instructions?	No	Not yet	No	No

System WLN

	LIBRARY			
Question	EVE	CON	IDA	KIN
B. IMPLEMENTATION OF THE SYSTEM IN YOUR INSTITUTION.				
1. How many hours of initial training are needed to become familiar with the System to operate a terminal?	1 hr/person	16 hrs - inq. training; 32 - MARC tagging; 8 - inp/edit; 16 - acq.	One day	Inquiry - 1/2 hr.; Cataloging - 1 hr for basics
2. How many people from your institution were involved in the initial training?	6	5	6	6
3. Did the Central System Staff provide the initial training?	Yes	Yes	Yes	WLN
4. How many hours of training were provided?	8	72 (See #1 above)	6	Less than a day
5. Were there follow-up sessions?	Offered, not used	By phone conversations on particular problems	Yes	A short one by WLN
6. How many hours of follow-up training?	0	Unable to estimate	6	4 hr. efficiency workshop by KCLS
7. Are there areas where you would like further training?	No	More staff attending MARC school & input/edit training		
11. Did you make changes to your facility to prepare for the installation of the terminal, modem, and/or telephone?	No	Yes, minor ones	Yes	Yes
13. Were you advised of the need for these changes beforehand?		Yes	Yes	Yes
14. Have you made changes since the installation of the equipment?	No	No	No	No
16. Did anyone visit at the time of the first terminal installation?	Yes	Yes	No	Yes
17. Did someone provide instructions on how to set up the terminal, etc.	Terminal was set up by WLN	Set up by network personnel	Yes	Installed
18. Did you supplement the User Manuals with further instructions?	No	No	No	Yes

System WLN

Question	LIBRARY		
	PIE	WAL	WAS
B. IMPLEMENTATION OF THE SYSTEM IN YOUR INSTITUTION.			
1. How many hours of initial training are needed to become familiar with the System to operate a terminal?	5-6 hours	10(?)	1 hr. for simple tasks
2. How many people from your institution were involved in the initial training?	10	3	10
3. Did the Central System Staff provide the initial training?	Yes	Yes	Yes
4. How many hours of training were provided?	5-6 hours	16	4
5. Were there follow-up sessions?	Yes	Yes	No
6. How many hours of follow-up training?	3-4 hours	8	As necessary
7. Are there areas where you would like further training?	Yes	No	Yes
11. Did you make changes to your facility to prepare for the installation of the terminal, modem, and/or telephone?	Yes	No	Yes
13. Were you advised of the need for these changes beforehand?	Yes		Yes
14. Have you made changes since the installation of the equipment?	Yes		Yes
16. Did anyone visit at the time of the first terminal installation?	Yes	Yes	Yes
17. Did someone provide instructions on how to set up the terminal, etc.	Yes	They did it for us	Yes
18. Did you supplement the User Manuals with further instructions?	Yes	No	No

System WLN

Question	ANC	ALA	BOI	ECC
C. CATALOGUING PRACTICE				
3. What is the most frequently used searching algorithm (e.g. title only, title and author)?	Author	Title (keyword)	LC Card Number	LC or ISBN, then title only
4. Typically, how many matches result from a search?	80%	high % so far except for CIP	?	Better than 90% so far
8. What percentage of the titles catalogued per year are found in the data base?	80%	Since July about 80%	Data not yet available	N/A
9. What percentage of those found in the data base need modification?	10%	So far, few	Data not yet available	N/A
10. What percentage of the titles catalogued per year must be added as original cataloguing to the data base?	20%	Not yet known	Data not yet available	N/A
15. How many titles that match records in the data base can be processed by an experienced operator in one hour?	20		20	N/A
16. How many titles can be input by an experienced operator in one hour?	3		3	
19. Does your institution maintain a separate authority control system or does your institution rely on the System?	Use system	Still separate, so far	Separate for subject, NUC and system for name	System

System WLN

Question	LIBRARY EVE	 CON	 IDA	 KIN
C. CATALOGUING PRACTICE				
3. What is the most frequently used searching algorithm (e.g. title only, title and author)?	RID (i.e. LC Card # or WLN card number)*1	Title and author (through the authority file)	LC card no.; ISBN, ISSN, key title	Copy cataloging = LC card number; original = title 50%, author 50%
4. Typically, how many matches result from a search?	1 (this is for RID search)*2	Not possible to est. Too many variables	1 or none	LC Card = 1 Title = 3-4
8. What percentage of the titles catalogued per year are found in the data base?	85-90%	65-70% (Est.)	75% (Est.)	84%
9. What percentage of those found in the data base need modification?	2-3%	10% (Est.)	50%	?
10. What percentage of the titles catalogued per year must be added as original cataloguing to the data base?	10-15%	25% (Est.)	25% (Est.)	16%
15. How many titles that match records in the data base can be processed by an experienced operator in one hour?	120*3	21	Around 25 titles	Don't know, we correct processing records, etc. at the same time.
16. How many titles can be input by an experienced operator in one hour?	3-4*4	5-8	5	4.8
19. Does your institution maintain a separate authority control system or does your institution rely on the System?	We use the system authority file, which means the Library of Congress authority	Only for name and subject; X - ref. entered into our public catalog	We rely on the system	System

*1 For reference and interlibrary loan use, title is most common search.

*2 I don't know know what is typical number of hits for title search.

*3 I assume this refers to searching the data base by RID or title and ordering cards when a matching record is found.

*4 I assume this refers to keying full bibliographic records from worksheets.

System WLN

Question	LIBRARY PIE	 WAL	 WAS
C. CATALOGUING PRACTICE			
3. What is the most frequently used searching algorithm (e.g. title only, title and author)?	RID	Title	RID (LC card number)
4. Typically, how many matches result from a search?	90+%	1-5	1
8. What percentage of the titles catalogued per year are found in the data base?	92%	90%	80%
9. What percentage of those found in the data base need modification?	Approx. 1%	5%	
10. What percentage of the titles catalogued per year must be added as original cataloguing to the data base?	8%	10%	20%
15. How many titles that match records in the data base can be processed by an experienced operator in one hour?	45-50 (request for products - requires search)	Don't know	30
16. How many titles can be input by an experienced operator in one hour?	60 holdings 10-15 original cat. records	Don't know	20
19. Does your institution maintain a separate authority control system or does your institution rely on the System?	Uses system	We are keeping our subj. authority	No, except for material not processed in the data base

System WLN

Question	ANC	ALA	BOI	ECC
D. SYSTEM SUPPORT				
6. What percentage of your calls result in an immediate answer?	90%	So far, all	Most	N/A
7. What percentage of your calls require a return call with the answer by the System Staff?	10%		Few	N/A
8. What percentage of your calls are never completely answered by the System Staff?			0	N/A
E. SYSTEM OPERATIONS				
1. Do system failures cause operating problems in the library?	Yes		Yes	No

LIBRARY appears as a spanning header over the ANC, ALA, BOI and ECC columns.

System WLN

Question	LIBRARY EVE	 CON	 IDA	 KIN
D. SYSTEM SUPPORT				
6. What percentage of your calls result in an immediate answer?	98%	Most	Most of the time	cataloging = 99%
7. What percentage of your calls require a return call with the answer by the System Staff?	1.5%	Almost never		cataloging = 1%
8. What percentage of your calls are never completely answered by the System Staff?	.5%			
E. SYSTEM OPERATIONS				
1. Do system failures cause operating problems in the library?	Some do	Not usually	Yes, sometimes	Of course

System WLN

Question	LIBRARY		
	PIE	WAL	WAS
D. SYSTEM SUPPORT			
6. What percentage of your calls result in an immediate answer?	99%	90%	75%
7. What percentage of your calls require a return call with the answer by the System Staff?	1% or less	10%	25%
8. What percentage of your calls are never completely answered by the System Staff?	None		None
E. SYSTEM OPERATIONS			
1. Do system failures cause operating problems in the library?	Yes	No	Yes

SUMMARY OF BCUC/UTLAS ESSAY RESPONSES

UTLAS

B.8 Half the respondents answered positively for further training. The areas cited for further training were: the search methods especially browsable and KWIC access, the authority control system and the input and edit commands and procedures.

B.9 Half the respondents named some aspect of the training that was well done. One stated that all the training was well done. Parts of the training mentioned specifically were: the REFCATSS session, an intensive session with the BCUC systems librarian, the supplementary information sheets, a thorough explanation of the searching capabilities, the demonstration of the input commands, and an explanation of the terminal operation.

B.10 Almost half the respondents had no answer for this question. The remaining half cited several areas of the training that could be improved. These were: the invoice interpretation session, demonstrations to large groups without immediate follow up with small groups, the lack of a session in efficient use of the system, and an explanation of what happens to data input at user terminals.

B.12 The facility changes were of three principle kinds: install telephone lines, install power lines, and rearrange the work area.

B.15 In general, there were few changes after installation. The changes mentioned were: add sound proofing around the terminal, replace a defective terminal, and add other terminals. Two respondents moved to other buildings.

B.19 The majority of respondents supplemented their user manuals in some way. These were: BCUC information sheets; additional instructions for linkages; lists of user codes, their equivalences and RSN ranges; instructions for tracing a series; more examples; instructions for sign-on; instructions in the use of sub-accounts; and instructions to accommodate local practices.

UTLAS

B.20 The User Manuals were described as clear, concise and well organized. The abundance of examples was noted. Some aspects of the manual were mentioned such as the step by step explanation, the alphabetical presentation of the commands, and the one page per command format.

B.21 There are several ways in which the User Manuals might be improved. Most frequently mentioned were: an index, more examples, eliminate inaccuracies, and bring the manual up to date.

B.22 This question had similar responses to B.21, except for two comments. The first was a suggestion that BCUC do a manual for the BCUC libraries. The second was a fuller explanation of the long-range effect of various commands and sequence of commands.

C.1 Most respondents have made some changes in their cataloguing practices. The changes named were: use of added entries, tracing more series, dropping analytics, dropping accessioning revising authorities to conform to SHARAF, high cataloging standards for the smaller libraries, cease production of catalog cards, and changes in workflow to use the terminal more effectively.

C.2 Several types of materials were named as presently input into the system. These were: paperbacks. periodicals, serials, government documents, local college publications, company produced car manuals, sound recordings, A/V materials, and music.

C.5 Several aspects of the search capability were cited. These were: the precise access keys, title access, simplicity of input, automatic display of brief records in 'Z' accounts, and the hit list display.

C.6 Numerous aspects of the search were mentioned as cumbersome. These were: precise title search for common word titles, passive storage transfers, dropped records appearing in hit lists, inconsistency in indexing of punctuation and diacritics in title entries, not all source files have been indexed for the browsable index, excessive charges for the browsable index, limited author access, and the requirement to use BCUC entries.

C.7 This question elicited further possible improvements to the search. These were: improved author title search without the use of Boolean operators, more information displayed in the brief entry for these titles in passive storage, index the BCUC file for browsable access, index the Canadiana number, index the title added entries and series titles, eliminate all diacritics in indexing, increase data transmission speed, eliminate previous indexing errors, and have an active record for each title in passive.

C.11 Almost all respondents noted some changes. The changes noted were: revision of edition statement, completion of collation, trace all series, correct errors in indicators, correct tagging errors, add special subject headings, change the title, and add or complete notes.

C.12 Many responded that the best aspect of the edit was that it was easy to use. Specific commands that were mentioned were: stream, memory, replace, insert, delete, release, and new.

C.13 Several different features were mentioned. These were: necessary deletion and readdition of 010's and 020's when creating new records for titles held in juv and adult, use of suppress, input of diacritics, formulation of edit commands, necessity of making separate commands when making several changes of the same type, inability to correct several errors in the same field with one command, inability to look at control field except by 'all' command, inability to add data to the end of a data field without knowing what is in the field, requirement to use product command of adding to 035, local vs. real field entry is cumbersome, and having to delete fixed fields in order to change them.

C.14 This question elicited many of the same response as C.13. Additional comments were made. They were: replace 'repl' command with use

UTLAS

of the parenthesis, add the capability to switch subaccounts without shutting off the terminal, devise more explicit error commands, and develop local edit.

C.17 The causes of variation in input time were: diacritics, type of material (e.g. media), and BCUC cataloguing standards.

C.20 The majority of respondents do not use the authority control system, because it is not available. One respondent accepts the system headings unless a conflict is discovered when filing the cards.

C.21 The majority of the respondents were receiving catalog cards and COM. Two received magnetic tapes. Six received monthly accession lists.

C.22 While most respondents cited no quality problems, a few did. Records were missing from the magnetic tapes. A COM catalogue contains inprocess records which the user has asked to be excluded. During the RECON for one user numerous errors arose.

C.23 Depending on the product, the desirable delivery times were from one week to one month.

C.24 Some respondents indicated no problem with actual delivery. Others indicated waits of 6-8 weeks for COM catalogues.

C.26 One respondent noted satisfaction with the number of products, but dissatisfaction with the high price tag. Many respondents expressed a preference for many options in the COM catalogues. One respondent preferred card sets to sorted cards. One respondent expressed the desire to have the U04 linkage field included in their magnetic tape record.

D.1 Most respondents interpeted the User Group as the BCUC office. The kinds of aid mentioned were: answers concerning the system, adverse of procedural matters, standards, general information, a forum for discussion of cataloguing and coding problems, and documentation.

D.2 Most respondents seemed to interpret the System Contact as the UTLAS staff person. Contact ranged from weekly to whenever she/he visits.

D.3 Approximately half responded that their System Contact person, presumably from UTLAS, called infrequently. The others had contact at least monthly.

D.4 There was a great deal of variety in the responses to the question. The range of responses was from three times a week to rarely. The answer probably is dependent on what the user is doing that might require assistance,for example implementing new products.

E.2 The majority of the respondents cited disruptions to the work flow as the main consequence of system failures.

E.3 The respondents mentioned several different causes for system failures. These were: software system failure, hardware problems, system overload, the staff at UTLAS, telecommunication problems, and faulty terminals.

E.5 The respondents mentioned three common actions: immediately go about other work; tell supervisor and then go about other work; or call BCUC or in a few cases UTLAS to verify problem and duration.

E.6 The respondents had several different answers to the question of how frequently is the system changed. The answers ranged from continually or frequently to twice a year. One respondent pointed out that the frequency of change was not a problem but being informed of the impact of the change was a problem.

UTLAS

E.8 The respondents were evenly divided between extending capabilities and correcting problems. One respondent noted that UTLAS is exceedingly slow at correcting programming errors.

E.9 The respondents cited numerous examples. They were: browsable index, on-line validation of headings, CONSER records loaded, cross file transfers, clearing of unfilled transfers, editing 'real' fields after filing records no longer makes them 'local', multiple field deletes now possible, correcting linkages, card production now possible with sub-locations, redisplay of hit list, new subfields in 090, record filed details abbreviated, changes in subaccounts and 040's, and new billing set up.

E.10 The majority of the respondents have no problem accommodating the changes. Two respondents noted the problem is adequate notification of the changes and their impact. One respondent has had difficulty adjusting to UTLAS in general. Their throughput was down substantially and the unit costs increased greatly.

F.1 The respondents cited several different best features. The most frequently noted was the high incidence of Canadian material in the data base. Other features mentioned were: easy to use system, large data base (another complained about the small data base), searching capabilities, COM, quality of products, the existence of both local and uncan files.

F.2 The respondents had numerous 'worst' features. These include: slow response time, down time, expense of service and products, invoices incomprehensible and often in error, quality of data base records, too few A/V records, inconsistent information from UTLAS staff, excessive problems with Batch CATSS, delays due to high volume of work and number of users, insufficient staff and equipment at UTLAS, passive to active transfers, lack of coding standards, limited search capability, inability of users to participate or influence UTLAS' future plans, lack of authority control to date, time lag between ordering a product and receiving it,

UTLAS

poor communications line from Richmond area, edit processing clumsy, means of changing subaccounts, passive storage, lack of author key for sourcefiles, linked file structure, hours of system availability, Friday absolute cutoff for products, vague error messages,and no toll-free number to report system problem.

Additional Comments:

One respondent stated that they have had very few problems with UTLAS system and staff, and further wondered if the problems are not with BCUC and its organization rather than UTLAS and its organization.

Another respondent noted that their library was looking forward to an on-line catalogue and not a fiche add-one catalogue. This respondent went on to describe why their use of UTLAS has not been overwhelmingly successful. The three reasons cited were: hit rate is not better than previous methods of obtaining cataloguing copy, now nonhits must be catalogued and coded-extra effort, and machine and communications costs are high.

SUMMARY OF WLN USERS ESSAY RESPONSES

WLN

B.8 Half the respondents listed no areas for further training. The remaining responses vaguely referenced the search capabilities as an area needing further explanation.

B.9 Several aspects of the WLN training were praised--WLN participation and leadership, hands-on experience, the efficiency workshop, and the input-edit sequences.

B.10 Four respondents had no answer. The other respondents cited different things: out of date manuals, system failures during training sessions, lack of an opportunity to study the manuals prior to the training session, time lag between training users on the system and training in efficient use of the system.

B.12 Facility changes were limited to the installation of phone lines, except for one library that moved an entire office.

B.15 Only two of the respondents made further changes in the physical layout since the terminals were installed. One move provided more work area for operators, and the second move eliminated glare on the screens. Another library moved the entire technical services department, but that move was not related to the WLN system.

B.19 Only three respondents indicated that supplementary material was needed. These materials were "how to" guides or the efficiency workshop hand-outs.

B.20 Several responses praised the user manuals for clarity, thoroughness, and step-by-step approach.

B.21 There was general agreement that the User Manuals need to be updated and more thoroughly indexed. The acquisitions manual needs considerable improvement according to two respondents.

WLN

B.22 This question is somewhat redundant, and elicited repetitious answerings--bring the manual up to date, create more indexes, put all manuals in looseleaf form, improve the acquisitions manual, and correct errors.

C.1 There were a variety of ways in which libraries changed cataloguing practices: using more complete cataloguing copy, use call number in data base, search on WLN not NUC or BPR, no longer producing in-house catalogue cards.

C.2 It appears almost everything that can be input or processed is. The exceptions are for those materials still lacking a MARC format: musical scores, audio visual, vertical file or pamphlet materials, and non-Roman alphabets.

C.5 The respondents like the variety of search methods and access points. The keyword search was mentioned more than any other. The authority file was also cited.

C.6 Many respondents did not answer this question. Those that did mentioned response time, inability to search by a specific title, inability to limit number of hits, inability to search a one-word title with no author, problems searching classes, series and pseudonyms, lack of personal name key word search, problems searching common words in titles, subjects, and author names.

C.7 This question was repetitious of C.6, and elicited the same responses. Additional suggestions were: publisher search, especially with common word searches; more flexibility in subject searchs so that a knowledge of LCSH not required for effective search construction.

C.11 The most commonly cited changes are to CIP records: completion of collation, revision of imprint, title and subtitle changes.

WLN

C.12 There was overall praise of the edit capabilities. Specific features receiving mention were: insert character/insert line capability, view entire record on CRT screen, use of highlighting for tagging errors, and the WLN/WSL central review staff.

C.13 Eight of the respondents had no answer. The other three responses were: inability to insert characters from one line to another; a partially input screen cannot be saved; and letters are occasionally lost.

C.14 This question elicited the same responses as C.13. There was only one additional comment. It was to include automatic name and subject authority checking.

C.17 The intent of the question was not fully understood. Only half the respondents answered the question, and they cited the different steps in the input and input/edit process as the cause for variations in the input times.

C.20 The authority files are checked generally before input of original cataloguing or ordering copy cataloguing. When applicable, suggestions are made to the WLN/WSL review staff for additional entries or cross references.

C.21 Over half the respondents order cards, labels, the Resource directory, and various printed lists, but no COM. The remainder order COM and may or may not order cards.

C.22 There appear to be few quality control problems. The spine labels do not adhere to the spine of the book; and there are blind cross references in the custom COM catalogues.

C.23 Most users feel one to two weeks delivery time is sufficient.

C.24 Most users receive materials in 10 days, some materials require 2 to 3 weeks.

WLN

C.26 Only two suggestions were made: notify cards upon the receipt of special order materials, and a COM shelf list. The majority of respondents were content with the products offered.

D.1 There were few responses to this question. The aid received related clarification or explanation of procedures and WLN policies.

D.2 Most respondents communicated once or twice a week, or only when a problem arose.

D.3 The Daily News and the weekly Technical Bulletin seem to eliminate the need for regular calls from the System staff. Only in extraordinary circumstances or to schedule meetings do the Systems staff telephone.

D.4 The responses ranged from daily to once or twice a month.

E.2 In general the system failures resulted in delays in work in the libraries. In only one case did it require re-input of data.

E.3 The responses ran the gamut from control processor, disc, software, telephone lines to terminals.

E.5 The respondents may telephone WLN, or report to their supervisor, or turn immediately to other duties.

E.6 There was little agreement on the frequency of change. Some felt there was only occasional change except for the acquisition module. Others felt there was constant change, some of which was pretty minor.

E.8 There was little consensus on this question. Some respondents felt the changes are to both correct problems and extend capabilities. Other respondents felt the changes are to extend capabilities. One respondent noted that most changes now are aimed at optimization of system operation.

WLN

E.9 The most frequently cited example is the Restore command and the Browse command. Others noted improvements in the acquisition system.

E.10 The overwhelming response was 'no'.

F.1 Almost every respondent had several answers for this question. The features mentioned were: good response time, stable and reliable system, growing data base, high-quality data base, variety of search methods, keyword searching, verification for ILL, authority control, sophisticated but easy to use system, responsive and friendly WLN support staff, consistantly high-quality products, and a flexible acquisition system.

F.2 Almost every respondent had several answers for this question. The worst features mentioned were: system down time, absolute adherence to LC cataloguing practices including mistakes, maintenance of the Hazeltine terminals, acquisition system has limited options, authority file conflicts, no weekend service, out-of-date user manuals, institution dependent information can display on the terminal but not in the custom catalogue, cost of using the system, slow development of serials, and complexity of search prohibits use by some staff and the public.

INSTITUTION ______________________________ SYSTEM ____________ P. 1

USER SURVEY

Name for follow-up questions ______________________________

Title ______________________________

Telephone number ____________________ Date ______________

A. SYSTEM USAGE

1. How long has your institution used the system? __________ months
2. How many terminals does your institution have? ______________
3. How many printers? ______________________________
4. How are you connected? dial up __________ leased line __________
5. What is your communication speed? 300 baud __ 1200 baud __ 2400 baud __ 4800 baud __
6. How many hours per day is each terminal in use? ______________ ______________________________
7. How many days per week is each terminal in use? ______________ ______________________________
8. How many titles did your institution catalogue last year? __________
9. How many volumes were added by your institution last year? __________
10. If you have a retrospective conversion program, how many titles did you convert last year? ______________________________
11. What volume of other activity was done on the system last year?

Pre-order searching ______________

Interlibrary loan ______________

Reference ______________

Other ______________

B. IMPLEMENTATION OF THE SYSTEM IN YOUR INSTITUTION

1. How many hours of initial training are needed to become familiar with the System to operate a terminal? ______________________
2. How many people from your institution were involved in the initial training? ______________________________
3. Did the Central System Staff provide the initial training? __________
4. How many hours of training were provided? ______________________
5. Were there follow-up sessions? ______________________________
6. How many hours of follow-up training? ______________________
7. Are there areas where you would like further training? __________

B. IMPLEMENTATION OF THE SYSTEM IN YOUR INSTITUTION (cont.)

8. What areas and how many hours of training? ______________________

9. What were the best parts of the training to date? ______________________

10. What were the least successful parts of the training to date? ______________________

11. Did you make changes to your facility to prepare for the installation of the terminal, modem, and/or telephone? ______________

12. Describe briefly the changes. ______________________

13. Were you advised of the need for these changes beforehand? __________

14. Have you made changes since the installation of the equipment? __________

15. If yes, why? ______________________

16. Did anyone visit at the time of the first terminal installation? ________

17. Did someone provide instructions on how to set up the terminal, etc.? ____

18. Did you supplement the User Manuals with further instructions? __________

19. If yes, please indicate the subject of the supplementary material and the number of pages of the supplementary material. ______________________

20. What do you like best about the User Manuals? ______________________

21. What do you like least about the User Manuals? ______________________

22. What would you add or revise in the User Manuals? ______________________

INSTITUTION ______________________________ SYSTEM __________

C. CATALOGUING PRACTICE

1. If you have changed your cataloguing practices since your intitution began using the System, please describe how. ______________________________
____
____

2. If there are titles that are not being processed through the System, identify these materials, the unique practices, and the quantity processed? ___
____
____

3. What is the most frequently used searching algorithm (e.g. title only, title and author)? ______________________________

4. Typically how many matches result from a search ? ______________________________

5. What are the best features of the search capability? ______________________________
____
____

6. What are the most cumbersome? ______________________________
____
____

7. What would you improve or add to the search capability? ______________________________
____
____

8. What percentage of the titles catalogued per year are found in the data base?
____

9. What percentage of those found in the data base need modification? ________

10. What percentage of the titles catalogued per year must be added as original cataloguing to the data base? ______________________________

11. What information is most commonly added or changed for those titles needing modification? ______________________________
____

12. What are the best aspects of the editing features of the System? __________
____
____

13. What are the most cumbersome features of the edit? ______________________________
____
____

14. What, if anything, would you improve or change in the edit? ______________
____
____

C. CATALOGUING PRACTICE (cont.)

15. How many titles that match records in the data base can be processed by an experienced operator in one hour? ______________________

16. How many titles can be input by an experienced operator in one hour? ______

17. If these rates vary substantially, please explain why. ______________________

____

____

18. If you have records of processing rates, please include a copy with your response.

19. Does your institution maintain a separate authority control system or does your institution rely on the System? ______________________

20. What is your institution's procedure for using the System authority control?

____

____

____

21. What products do you order from the System? ______________________

____

____

22. What are the quality problems, if any? ______________________

____

____

23. How long should the time between ordering a product and delivery of the product be? ______________________

____

24. How long is it normally? ______________________

____

25. If you have any records on the delivery time of products, please include a copy with your response.

26. What products would you like that are not now availabe from the System? ____

____

____

D. SYSTEM SUPPORT

1. What aid do you receive from the User Group? ______________________

____

2. How often do you have regular conversations with your System Contact person?

____

INSTITUTION ______________________ SYSTEM __________ P. 5

D. SYSTEM SUPPORT (cont.)

3. In addition, how often does your system contact person call you with information on the System? ______________________

4. How often do you have specific problems for which you must contact the System personnel? ______________________

5. If you have a log of these occassions and questions, please include a copy with your response.

6. What percentage of your calls result in an immediate answer? __________

7. What percentage of your calls require a return call with the answer by the System staff? ______________________

8. What percentage of your calls are never completely answered by the System staff? ______________________

E. SYSTEM OPERATIONS

1. Do system failures cause operating problems in the library? __________

2. Describe the problems. ______________________

3. What do you think are the key reasons for failures affecting your library? __________

4. If you keep a log of System failures, please include a copy with your response.

5. What do your terminal operators do when they decide the System is down? __________

6. How frequently are changes being made to the System? ______________________

7. Do you receive advance notice of the implementation of the changes? __________

8. Are the changes primarily to correct problems or to extend capabilities? __________

9. Give examples. ______________________

INSTITUTION________________________________ SYSTEM______________ P. 6

E. SYSTEM OPERATIONS (cont.)

10. Has the library had any difficulty in accomodating the changes?____________________

F. OVERALL RATING

1. What are the best features of the System?________________________

2. What are the worst features of the System?________________________

USER SURVEY TABULATION

The User Surveys have been divided into two groups: UTLAS users and WLN users. Keep the two groups separate in the tabulation. One set for UTLAS and one set for WLN.

The survey questions are of two kinds: those requiring brief precise answers, and those requiring written recommendation and opinion. The brief answer questions will be combined on a chart and the lengthy essay answer questions will be tabulated separately.

Brief Answer Questions

1. Prepare the tabulation sheets. The questions will be in the left-most column down the page. Each library's answers will be recorded in columns to the right. The questions and answers to be included in this tabulation follow:
   A. 1,2,3,4,5,6,7,8,9,10,11
   B. 1,2,3,4,5,6,7,11,13,14,16,17,18
   C. 3,4,8,9,10,15,16,19
   D. 6,7,8
   E. 1
   Follow the draft attached.

2. After all the questions have been recorded, photocopy the sheets sc that there is no need to retype them

3. Record the library's answers. Where there is no answer on the survey form leave the answer blank. Where you cannot interpret the answer, put a question mark on the tabulation sheet.

Essay Answer Questions

Many of the answers in the User Survey cannot be tabulated, because the question asked for recommendations or opinions. Below is a list of these questions.

1. For each question, began a new page.
2. Type the question at the top.
3. Then go through the User Surveys and record the answers. Set up two columns for the answers as follows:

Institution	Answer

4. Complete all the UTLAS answers first. Begin a new sheet repeating the initial question for the WLN answers. In this way, all answers relating to one system will be together.

Questions:

B. 8,9,10,12,15,19,20,21,22

C. 1,2,5,6,7,11,12,13,14,17,20,21,22,23,24,26

D. 1,2,3,4

E. 2,3,5,6,8,9,10

F. 1,2

APPENDIX B

COMPARISON OF UTIAS AND WLN OPERATING FEATURES - DETAIL

BCUC Authority Control	120	WLN	UTLAS
1.0 General Information	18		
1.1 Automated system in operation	4	4	4
1.2 How long has it been in use	2	2	1
1.3 Amount of authority records	4	2	2
a) total authorities			
b) total names			
c) total subjects			
d) total cross references			
1.4 Are LC MARC authorities input	4	0	2
a) names			
b) subjects			
1.5 Other sources of input	4	2	2
2.0 File Organization	18		
2.1 File layout	-	-	-
2.2 What files are linked	4	4	4
2.3 Heading or access number stored in bib record	2	2	2
2.4 Authority records look like...	2	0	2
2.5 Source of heading displayed	4	4	4
2.6 Heading indicates rules created by	4	0	4
2.7 Information used to suppress AACR2	2	0	2
3.0 Validation of Bibliographic Input	29		
3.1 Headings updated automatically	8	4	8
3.2 Hierarchy of matching against authorities	10	0	10
3.3 Set for individual user	-	-	-
3.4 For groups of users	-	-	-
3.5 LC authority tapes loaded and updated	5	0	5
3.6 Batch update from user as well as LC	6	6	6
4.0 Update of Authority Records	29		
4.1 All linked records changed	13	10	13
4.2 Replacement limited to matching records of the same source	8	6	8
4.3 Conflicting local headings	8	0	8

BCUC
Authority Control (Continued)

		WLN	UTLAS
5.0 Other Services and Products	13		
5.1 Cross references and notes	4	4	4
5.2 Bilingual headings	2	0	2
5.3 Use of authority records and cross references in production of batch products	2	2	1
a) catalog cards			
b) book catalogs			
5.4 User request in LC MARC	4	0	0
5.5 Other authority batch or off-line products?	1	0	0
6.0 Linkages to Other Subsystems	13		
6.1 Linked to circulation files	6	0	3
6.2 Linked to acquisition files	7	5	0

BCUC

Batch Services and Products	70	WLN	UTLAS
1.0 Catalog Cards	15		
1.1 Cards available for all MARC formats	4	3	3
1.2 Frequency of production	2	1	2
1.3 Categories where options in format are available	4	3	4
1.4 Pre-sorted cards?	4	0	4
1.5 Cross reference cards available	1	0	0
2.0 Labels	6		
2.1 Are book labels produced?	3	3	3
2.2 Spine labels?	3	3	3
3.0 Edit Lists	9		
3.1 Records selected for edit lists	1	1	1
3.2 Information available	2	2	2
3.3 Frequency of production	3	3	3
3.4 Edit lists accompanied by error listings	3	0	0
4.0 COM	20		
4.1 Microfiche & microfilm availability	1	.5	1
4.2 Reduction ratio	1	1	1
4.3 Produce or subcontract microfiche or microfilm	-	-	-
4.4 MARC formats available	3	2	2
4.5 Possibility of full and abbreviated entries	3	1.5	3
a) same catalog			
b) different catalogs			
4.6 Sequences available?	3	2	3
a) author			
b) title separate			
c) subject separate			
d) shelf list			
e) author and title combined			
f) author, title and subject			
g) classed catalog			
h) register - index			

BCUC
Batch Services and Products (Continued)

		WLN	UTLAS
4.7 Are union catalogs available?	3	1.5	3
4.8 Frequency of generation a) master only b) master plus supplements	3	3	2
4.9 a) Cross references in catalogs b) Check for blind references	3	3	2
5.0 Magnetic Tapes	10		
5.1 Available in LC MARC format	4	4	4
5.2 Other formats for tape delivery	3	0	1
5.3 Frequency of tape generation	3	3	3
6.0 Paper Catalogs	5		
6.1 Same kind of catalog on paper as microfilm	1	1	1
6.2 Photocoposition catalogs available	3	1	2
6.3 Computer lineprint lists available	1	1	1
7.0 Miscellaneous	5		
7.1 Microforms of data base available	5	5	0

BCUC Circulation	70	WLN	UTLAS
1.0 General Information	20		
1.1 System name	-	-	-
1.2 a) Number of systems installed	1	1	0
b) Oldest been in use			
c) Newest been in use			
1.3 MARC formats handled by the circ system	1	1	1
a) monographs			
b) serials			
c) phono records			
d) films			
e) tapes			
f) maps			
g) microfilms			
1.4 System has following functions	7	7	3
a) charge			
b) discharge			
c) renew			
d) holds			
e) reserves			
f) film and A/V			
g) interlibrary loan			
h) branch			
i) fine calculation			
j) recall			
k) carrels			
l) in-process monitoring			
m) record-count of all reshelving			
1.5 Loan periods available	4	4	4
1.6 Types of borrowers	3	3	3
1.7 Book charged-no circ id or no borrower card	2	2	2
1.8 Public Access	2	0	2
a) patron search book files			
b) where is this being done			
c) How long has this been done			
2.0 Book information	5		
2.1 Book identification	1	1	1
2.2 Book or title record format	1	1	1
a) fixed or variable			
b) max characters			
c) MARC format			
d) derived from MARC format			
e) data compression - what?			

BCUC
Circulation (Continued)

		WLN	UTLAS
2.3 Information in book/title record	1	1	1
2.4 Access points to book/title file a) author b) title c) ISBN d) book number e) search key f) subjects g) call number	2	2	2
3.0 Borrower Information	5		
3.1 Borrower card identification	1	1	1
3.2 Patron or borrower record format a) fixed or variable b) max &/or average	1	1	1
3.3 Information in borrower file	1	1	1
3.4 Borrower file accessed a) patron name b) patron ID number	2	2	2
4.0 Printed Output	10		
4.1 System generate date due slip	1	0	1
4.2 Overdue notices generated	3	3	1
4.3 Recall notices	2	2	0.5
4.4 Fines	1	0	0.5
4.5 Hold availability	1	1	0.5
4.6 Management reports a) circulation statistics b) weeding lists c) more copies needed d) other	2	2	0
5.0 Software	15		
5.1 Programming language	1	1	0
5.2 Who maintains software	3	3	3
5.3 How many programs in system	-	-	-
5.4 Percent of program been in operation more than six months	2	2	0
5.5 a) Circ system interface with mainframe system b) tape transfer of system c) computer to computer transfer d) protocal for this e) Will other systems be able to emulate this transfer	5	2	2

BCUC
Circulation (Continued)

		WLN	UTLAS
5.6 Plans for future development	2	1	1
5.7 Other functions loaded onto this system	2	2	2
6.0 Hardware	10		
6.1 Hardware configuration	7	7	7
6.2 Terminals	3	3	3
7.0 User Information	5		
7.1 User documentation	1	1	.5
7.2 How is it organized	1	1	1
7.3 How is it updated	2	2	0
7.4 How frequency is it updated	1	1	0

BCUC
Public Access

		WLN	UTLAS
CATALOGING	25		
1.0 General Information	5		
1.1 Public access system	2	1	1
1.2 Time in use	2	1	0.5
1.3 Number of users on system	1	-	0
2.0 Search	10		
2.1 Files available for searching	5	5	5
2.2 How can files be searched	5	3.5	3
3.0 System Messages	10		
3.1 System prompt user	4	0	0
3.2 Menu selection for user	2	0	0
3.3 System explanations expandable	4	0	0
CIRCULATION	25		
1.0 General Information			
1.1 Public access system	2	1	1
1.2 Time in use	2	0	1
1.3 Number of users on system	1	0	-
2.0 Search			
2.1 Files available for searching	5	3	3
2.2 How can files be searched	5	2	3.5
3.0 System Messages			
3.1 System prompt user	4	4	2
3.2 Menu selection for user	2	2	0
3.3 System explanations expandable	4	3	3

BCUC Search	50	WLN	UTLAS
1.0 Files	20		
1.1 Resource files searched by:	20	18	14
a) LC no.			
b) ISBN no.			
c) ISSN no.			
d) system no.			
e) author key			
f) author words			
g) title key			
h) title words			
i) subject			
j) series			
1.2 Authority file	20	18	15
a) system no.			
b) heading			
c) key			
1.3 Library bib files	10	9	8
a) LC no.			
b) ISBN no.			
c) ISSN no.			
d) system no.			
e) author key			
f) author words			
g) title key			
h) title words			
i) series			
2.0 Search Types	50		
2.1 Search only capability	3	1	3
2.2 Browse through files	11	10	7
2.3 Browse through authority files, then display bib records	8	8	8
2.4 a) Boolean Searches b) Limits to Boolean Searches	9	7	8
2.5 Novice and expert searching	3	0	0
2.6 a) Search logic for public or library employees b) Direct patron inquiry	3	2.5	2.5
2.7 View matches without repeating search keys	3	3	2
2.8 Results of search be argument for finer search	7	7	7
2.9 Hierarchy of data bases be established for matching	3	3	3

BCUC
Search

		WLN	UTLAS
3.0 Display	30		
3.1 System retrieves more than one match, what information is displayed	6	4	3
3.2 One record matches key, does system display full record immediately	6	3	1
3.3 When hit is displayed, are holdings codes displayed	6	6	6
3.4 Can searcher request to view another user's record	6	4	6
3.5 a) Maximum number of hits by search types	6	2	2
b) What happens when user hits this number			

BCUC
Serials

	70	WLN	UTLAS
1.0 General Information	10		
1.1 Is serials subsystem working?	3	0	0
1.2 Length of operation	3	0	0
1.3 Number of users, who are they?	2	0	0
1.4 CONSER records available as resource file, how many	2	2	2
2.0 What function does the subsystem perform	40		
2.1 Serials check-in	9	0	0
2.2 Serials claim	6	0	0
2.3 Subscription monitoring	12	4	0
2.4 Bindery control	4	0	0
2.5 Holdings in summary fashion	9	0	0
3.0 Linkage to other subsystems	20		
3.1 Linkage between serials and acquisitions	13	3	0
3.2 Linkage to the circulation and public access	7	0	0

BCUC

		WLN	UTLAS
RECON Methods	50		
1.0 Recon input methods a) batch b) on-line	10	10	10
2.0 Recon access keys for on-line and batch a) LC no. b) ISBN no. c) ISSN no. d) author e) title f) system ID no.	10	7	7
3.0 Turn around with batch input	8	2	1
4.0 Differences between on-line recon service and regular on-line cataloging service	7	7	7
5.0 Number of users for recon purposes	5	5	5
6.0 Data base and system available for recon	10	9	10

BCUC Acquistions	90	WLN	UTLAS
1.0 General Information	10		
1.1 Time acquisition system has been operational	3	2	0
1.2 Number of libraries using system currently	2	1	0
1.3 How long has each used the system	-	-	-
1.4 Types of materials handled	3	3	0
1.5 LC MARC file for order input and verification	2	2	0
2.0 Files	20		
2.1 Files/their interrelationship	2	2	0
2.2 Information in the in-process records	7	7	0
2.3 How are in-process files accessed?	6	6	0
2.4 Information in vendor file	7	4	0
2.5 Who keeps vendor file current?	3	3	0
3.0 System Features	30		
3.1 User in-process file & cancellations, time and response	2	2	0
3.2 Update of foreign currency conversion rates/frequency	5	0	0
3.3 System handles prepayments	3	1	0
3.4 Claims a) Claim on given schedule b) What is it? c) Can it be adjusted? d) Reviewed before mailing?	3	3	0
3.5 Fund Accounting a) Provide for fund accounting b) Amount of subfunds provided c) Information funding record contains d) System encumbers e) Totals carried year to year f) Can user overencumber g) Kinds of fund reports available, frequency	5	3	0
3.6 Receiving a) Partial shipments b) Returns and requests for credit c) Damaged and wrong books reordered automatically	5	4	0

BCUC
Acquisitions (Continued)

		WLN	UTLAS
3.7 Purchase Orders	5	4	0
a) Generated on regular schedule			
b) Orders to same supplier combined			
c) What special order features are available?			
3.8 Are tapes read or generated by the system?	2	0	0
4.0 Type of Management Reports Generated	10		
4.1 Vendor Performance	2	0	0
4.2 Average price for classes	2	0	0
4.3 Fund status	2	2	0
4.4 In-process status	2	2	0
4.5 Outstanding orders	2	0	2
5.0 Printed Products	10		
5.1 Purchase orders	2	2	0
5.2 Claims	2	2	0
5.3 Cancellations	2	0	0
5.4 Notification of receipt by specific persons	1	0	0
5.5 Routing slips	1	0	0
5.6 Vendor reports on item status	2	0	0
6.0 Linkage to Other Subsystems	10		
6.1 Link to cataloging subsystem	2	2	0
6.2 Link to authority control	2	1	0
6.3 Link to serials control	4	0	0
6.4 Link to public access	2	0	0

BCUC
File Security and Management

	110	WLN	UTLAS
1.0 File Organization	30		
1.1 Mainframe resource and user file	13	11	8
1.2 Individual holdings & union holdings in file structure	10	10	10
1.3 File Relationships - mainframe/ minibased	7	3	3
2.0 File Maintenance	15		
2.1 Frequency of source file update	8	6	6
2.2 When is actual on-line update made?	7	7	5
3.0 File Security	15		
3.1 Lost data	6	4	4
3.2 Last date for unrecoverable data	3	2	0
3.3 Safeguards against unauthorized modification for resource and user files	6	6	6
4.0 Response Time	25		
4.1 Average response time, last six months	9	6	0
4.2 Response time for file architecture	11	9	8
4.3 Time to pull file of 30,000 bib, union file of 60,000 records	5	3	3
5.0 File Reliability	25		
5.1 Up-time percentage	10	0	8
5.2 Difference since 1978	5	4	4
5.3 Main components of downtime	7	5	5
5.3 Downtime components for 1979	3	0	2

BCUC Bibliographic Record Management	100	WLN	UTLAS
1.0 General Knowledge	30		
1.1 Resource file LC MARC compatible	8	8	8
1.2 What data fields dropped	4	4	4
1.3 What data fields added	2	1	2
1.4 What data fields changed	4	4	4
1.5 Fields available for local data	4	3	4
1.6 LC MARC communication file as output	8	8	8
2.0 Record structure	--		
3.0 Enforceable standards for quality	19	15	0
4.0 Record released for general use	7	7	3
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6.0 Verification needed for new record	7	6	3
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7.3 Record that matches a non-LC record, what happens	6	6	3
7.4 Subscription records a) match existing record b) match a user record	6	3	4
7.5 Union catalog - duplicates	6	6	2

BCUC

General Management and Organization	40	WLN	UTLAS
1.0 Organization	13		
1.1 Organization chart	5	2	4
1.2 Amount of people in each major unit	3	1	3
1.3 Staff amount directly involved in running the system	5	2	5
2.0 Development Funding	13		
2.1 Finance of development of new subsystems and features		3	11
3.0 User Participation	10		
3.1 Users indicate preferences		8	3
4.0 Growth	4		
4.1 Potential growth	1	1	0
4.2 Where will growth come from	1	1	1
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BCUC User Instructions	60	WLN	UTLAS
1.0 Documentation indexed	6	0	2
2.0 Samples of procedures	6	6	6
3.0 Follow operations from beginning to end	6	3	3
4.0 Preparation	15		
4.1 a) Procedure for creating and releasing documenation	9	5	7
b) Who is responsible			
c) Who reviews the draft			
4.2 a) Policy on features	6	6	6
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5.0 Portions not included in user documentation	6	5	4
6.0 Updates	15		
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6.2 Date of last update	7	6	7
7.0 Documentation clear and easy	6	3	6

BCUC FEATURE COMPARISON -- RECON METHODS

CRITERIA	WLN	UTLAS
1.0 What are the recon input methods? a) batch b) on-line	1.0 a) Yes. b) Yes.	1.0 a) Batch - OCR or key to tape. b) On-line - terminal.
2.0 What are the recon access keys for on-line and batch? a) LC no. b) ISBN no. c) ISSN no. d) author e) title f) system ID no.	2.0 Recon can be done either in the batch or on-line mode. For on-line the search keys are the same as those available for current materials. For batch, the search keys are more restricted - either LC card number or the first twenty characters of the title including initial articles plus call number plus first ten characters of the edition statement, plus first ten characters of the publisher's name, plus the last two digits of the publication year, plus a comment for matching the output in the user's institution.	2.0 BATCH CATSS and CATSS use the same precise keys - i.e. LC no., ISBN, ISSN, and RSN. CATSS on-line can use the precise or browsable search. Batch / On-line a) Yes / a) Yes. b) Yes. / b) Yes. c) Yes. / c) Yes. d) No. / d) Yes. e) Yes, but not recommended / e) Yes. f) Yes. / f) Yes.
3.0 What is the turn-around with the batch input?	3.0 Matching monthly.	3.0 Six weeks.
4.0 What are the differences in service, products, and costs with the on-line recon service as compared to the regular on-line cataloging service?	4.0 There are no differences in service. The batch input is priced more cheaply.	4.0 No difference in service or products. Costs differ. See Schedule of Charges Section IV for Batch CATSS charges.
5.0 How many users are using the recon facility for recon purposes?	5.0 Until June 30, 1979, about 50% of all WLN users. Since July 1, 1979, 7 users are using RECON facilities. Does not include many doing original input (at least 5).	5.0 25-30. On-line recon is being done gradually by most other libraries.
6.0 Is the entire data base and system facilities available for recon? If not, what is available?	6.0 Batch system matches only against full bibliographic records. Interim records are ignored. On-line system matches against any record in the bibliographic file.	6.0 The entire resource data base is available, as well as the data bases of users with whom there are sharing agreements. The matching is done on a priority basis.

BCUC FEATURE COMPARISON -- PUBLIC ACCESS

CRITERIA	WLN	UTLAS
1.0 General Information	MAINFRAME - CATALOGING	
1.1 Is there a public access system?	1.1 There is no separate system. There is experimentation with public use of the standard inquiry module in State Library.	1.1 There is no separate system - REFCATSS and the browsable index can be used by the public.
1.2 How long has it been in use?	1.2 Experiment at State Library has been running for nine months.	1.2 Partial implementation - 1979.
1.3 How many users are on the system?	1.3 State Library only.	1.3 No.
2.0 Search		
2.1 What files are available for searching?	2.1 Bibliographic file, authority file, and summary holding file.	2.1 Bibliographic files, and the authority files, and indexed holdings.
2.2 How can the files be searched?	2.2 All the normal WLN search modes are available.	2.2 All the normal CATSS searching modes.
3.0 System Messages		
3.1 Does the system prompt the user?	3.1 No.	3.1 No.
3.2 Is there menu selection for functions?	3.2 No.	3.2 No.
3.3 Are the system explanations expandable, i.e., novice and expert?	3.3 No.	3.3 No.
	MINI-CIRCULATION	
	1.1 Yes.	1.1 Yes; LCMS is the UTLAS approach to public access. On-line catalogues should be distributed on to local mini-systems.
	1.2 Expected operational use end of 1979.	1.2 18 months.
	1.3 None	1.3 One library - 12 terminals. University of Toronto Library.
	2.1 Item file	2.1 1-1/2 million UTL records.
	2.2 Normal circulation inquiry mode.	2.2 Browsable index: Personal author, corporate names, title, call number, (subjects & key word could also be available).
	3.1 Yes.	3.1 Yes.
	3.2 Yes.	3.2 No
	3.3 There is an expanded explanation of options.	3.3 No, "HELP" command available to explain prompts.

BCUC FEATURE COMPARISON -- SERIALS

CRITERIA	WLN	UTLAS
1.0 General Information		
1.1 Is the serials subsystem working?	1.1 No.	1.1 No. There are some very preliminary specifications.
1.2 How long has it been operational?	1.2 Not applicable.	1.2 Not applicable.
1.3 How many users are there? Who are they?	1.3 Not applicable.	1.3 Not applicable.
1.4 Are the CONSER records available as a resource file? How many?	1.4 Only the authenticated CONSER records are available in the bibliographic system.	1.4 Yes. The CONSER records are in the resource data base.
2.0 What function does the subsystem perform?		
2.1 serials check-in	2.1 Not applicable.	2.1 Planned.
2.2 serials claim	2.2 Not applicable.	2.2 Planned.
2.3 subscription monitoring (ordering, renewal, cancellation)	2.3 In the acquisition system.	2.3 Planned.
2.4 bindery control	2.4 Not applicable.	2.4 Planned.
2.5 Can holdings be used in a summary fashion as well as detailed holdings?	2.5 Summary holdings may be entered through the regular input methods. Detailed holdings are not presently available.	2.5 Planned.
3.0 Linkage to other subsystems		
3.1 What is the linkage between serials and acquisition?	3.1 No linkage. But some functions are done in the acquisition system.	3.1 Serials are planned as a subset of acquisitions.
3.2 What is the linkage to the circulation and public access?	3.2 No linkage.	3.2 Serials records will be loaded into the CIRC minicomputer system via SYNCHRON.

BCUC FEATURE COMPARISON -- SERIALS

CRITERIA	WLN	UTLAS
1.0 General Information		
1.1 Is the serials subsystem working?	1.1 No.	1.1 No. There are some very preliminary specifications.
1.2 How long has it been operational?	1.2 Not applicable.	1.2 Not applicable.
1.3 How many users are there? Who are they?	1.3 Not applicable.	1.3 Not applicable.
1.4 Are the CONSER records available as a resource file? How many?	1.4 Only the authenticated CONSER records are available in the bibliographic system.	1.4 Yes. The CONSER records are in the resource data base.
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BCUC FEATURE COMPARISON -- SEARCH

CRITERIA	WLN	UTLAS
1.0 Files		
1.1 Resource files can be searched by:		(See attached for examples.)
a) LC no.	1.1 a) Yes.	1.1 a) Yes.
b) ISBN no.	b) Yes.	b) Yes.
c) ISSN no.	c) Yes.	c) Yes.
d) system no.	d) Yes.	d) Yes.
e) author key	e) No. only conferences and corporate entries have keyword search capability. Can truncate others from right.	e) Yes, about 10% of source files now indexed in browsing search.
f) author words	f) Yes.	f) Planned index to be loaded 1980.
g) title key	g) Yes.	g) Yes.
h) title words	h) Only as part of key word search.	h) Planned.
i) subject	i) Yes.	i) Yes, browsing search.
j) series	j) Yes.	j) Yes - browsing search. Note: browsing at present applies to 2 million of the 7 million total records.
1.2 Authority file		
a) system no.	1.2 a) No.	1.2 a) Yes.
b) heading	b) Yes; further, user can specify main head only, or subheadings only, or any part.	b) Initial or exact words in heading.
c) key	c) Keyword for corp/conf. author.	c) Planned.
1.3 Library bib files a) LC no. b) ISBN no. c) ISSN no. d) system no. e) author key f) author words g) title key h) title words i) series	1.3 User access to bibliographic file always the same. Must go through bibliographic file to access holdings, working and waiting files. Holdings directly accessible with LCCN. Note that institution dependent headings (not in the authority file) are retrievable only by the owning library.	1.3 A user can search their own file directly on all a)-d) and g) as in 1.1. In the case where browsable indices have not yet been created for the user, a user can search their own files indirectly by searching the bibliographic or resource files and then from the holdings display select for display their specific holdings. In this case, the same search keys as with the resource file are available Or, the user can search his holdings directly with the RSN or system identification number.

BCUC FEATURE COMPARISON -- SEARCH
(CONT'D)

CRITERIA	WLN	UTLAS
2.0 Search Types		
2.1 Is there a search only capability?	2.1 No. Not provided by network policy.	2.1 Yes, REFCATSS.
2.2 Is it possible to browse through files? Which ones?	2.2 User can browse forward in authority files, and then access bibliographic file. User goes through work files sequentially.	2.2 Yes, only those files browsably indexed (2,000,000 records at Oct. 31, 1979). Eventually all bibliographic and user files will be indexed and therefore browsable.
2.3 Can one browse through the authority files, and then display bib records?	2.3 Yes.	2.3 Yes.
2.4 a) Does the system handle Boolean Searches?	2.4 a) Yes, operators are "OR", "AND", and "BUT NOT".	2.4 a) Yes. See attached for examples.
b) What are the limits to the use of the Boolean capability - size and procedures?	b) If any term retrieves over 1250, the search aborts. This limit, which can be changed, is due to t the interium data space requirement for ADABAS.	b) 255 records may be displayed in one search. (No limit on number retrieved.)
2.5 Is there a novice and expert method of searching?	2.5 No.	2.5 No.
2.6 a) Is the search logic designed for the public or for library employees?	2.6 a) Library employees.	2.6 a) Library employees.
b) Is anyone presently using the system for direct patron inquiry?	b) There is an experiment in progress at the Washington State Library (WSL) for direct patron inquiry.	b) Yes. CISTIC (National Science Library).
2.7 After one has viewed one match from among many, can one view others without repeating the search keys and the search? How?	2.7 Yes, the SELECT command allows one to view various records, at once or separately, in several display formats. When another bibliographic, authority, or holdings search is entered a new list of records is created. The RESTORE command allows one to return to the previous search list.	2.7 Yes. By entering a command the hit list can be redisplayed.
2.8 Can the results of one search be the argument of another finer search?	2.8 Yes.	2.8 Yes.

BCUC FEATURE COMPARISON -- SEARCH

CRITERIA	WLN	UTLAS
2.9 Can a hierarchy of source data base and other library data bases be established for matching?	2.9 No. This is not an issue now because there is only one resource file. If another collection is implemented, then this heirarchy feature would be needed. Search control is consistent with the file structure.	2.9 Yes. Search control is consistent with the file structure.
3.0 Display		
3.1 If the system retrieves more than one match, what information is displayed?	3.1 Varies with file searched: Bibliographic file, then display is index or Minimum or Summary. Authority file, then display is Heading. Holdings file, then display is Minimum or Summary. Working file, then display is Summary. Waiting file, then display is Summary. Summary display is number of records only. Minimum display is author, title, LC card number, physical description, call number, holdings symbol, union holdings statement. Index display is author, title, edition, imprint, collation, and numerous serials notes. Heading display is the heading only.	3.1 The display depends on the type of search performed. A non-browsable search will display the holdings code of the record. The holding code may be either the resource record or a user copy. The browsable search display consists of the WHO code, the RSN, the tag where the text was matched, and an abbreviated main entry and title.
3.2 If one record matches the key, does the system display the full record immediately?	3.2 Not automatically. User must specify display option.	3.2 The system displays control fields. The user can then request the full display.
3.3 When a hit is displayed, are the holdings codes of other institutions also displayed?	3.3 Yes. (Holdings file search.)	3.3 Yes.
3.4 Can the searcher request to view another user's record at this point?	3.4 Presently holding insitution codes always display. Detailed holdings will display in the future at the discretion of the holding institution.	3.4 Yes--if there has been prior sharing agreement reached between the two users.
3.5 a) What is the maximum number of hits by search type?	3.5 a) 1250 on all searches. 300 words on the truncation in "Key" file searches.	3.5 a) Precise index-255 records may be retrieved. Browsable index-255 records may be displayed in one search. User should use Boolean logic to refine search. (No limit to number retrieved
b) What happens when a user hits this number?	b) The search aborts.	b)

```
ON AT 16:38 NOV 01,'79 LINE#=0P  SYSID=1C


16:38 NOV 01,'79
SERVICE 11 START


UNIVERSITY OF TORONTO
LIBRARY AUTOMATION SYSTEMS
CP-V VERSION F00

SERVICE HOURS:0830 NFLD-1700 PST 0700-2000 DST

LOGON PLEASE/IDENTIFIEZ VOUS: 5509,A001
PASSWORD/MOT DE PASSE:



ON AT 16:41 NOV 01,'79 LINE#=03  SYSID=22

ALL TRANSFER REQUESTS SATISFIED / TOUTE DEMANDE DE TRANS_

SOURCE FILES AVAILABLE              CYCLE          CREATION DATE
FICHIERS-SOURCE DISPONIBLES         CYCLE          DATE DE CREATION
Catss here
Auth=Authority records
Bibl=Bibliographic(or press Return)
Enter system name or press return




Access key: 1/TRUDEAU PIERRE
There are 1 Records with this key
Enter record level or key level browse commands
+1
 01:SHNA ASN=05502979 tag=400 *Trudeau, Pierre Elli*Trudeau, Pierre Elli*
End of record list reached
Enter record level or key level browse commands
/
TRUDEAU PIERRE
Enter key level browse commands
+3
TRUDEAU PIERRE ELLIOT
TRUDEAU PIERRE ELLIOT # 1919
TRUDEAU PIERRE ELLIOTT
Enter key level browse commands
-1
TRUDEAU PIERRE ELLIOT # 1919
Enter key level browse commands
```

```
d
There are 1 Records with this key
Enter record level or key level browse commands
*1
 01:UNI  RSN=10514443 tag=100 *Pierre Elliott Trude*Trudeau, Pierre Elli*1977*
End of record list reached
Enter record level or key level browse commands
1
RSN 10514443 DCH  79OCT23 TCH 0952 RTN MNTR PTC     2 STR .C.E OPN BAQD
UPD  0019 WHO  NTR YRK GLL CNC OPL LHB MAS OTT MEA BAQ
DFC  78FEB07  UCH   79OCT23
Enter edit commands
DISP
 2:  -   s  3:  1977  5:   quc  6:  ach  14:     1 16:     d
17:   fre 19:     d 30:      M
001        0001$a101452100
012        0001$a101452100
020        0001$a0885661001$bbr. :$c$6.95.
040        0001$aQMU$bFRE
043        0001$an-cn---
046        0001$aQMBN$bFRE
050    4   0001$aFC626*
082        0001$a971.0644
100  11   0001$aTrudeau, Pierre Elliott,$d1919-
245  10   0001$aPierre Elliott Trudeau, portrait intime
               /$e[interviewer, Alain Stanke‡ ;$fphotogr. extraites
               de l'e‡mission de te‡le‡vision, et autres photogr. de
               John Taylor]. --
260  0    0001$a[Montre‡al] :$bStanke‡ ;
               TM,$c1977$e(Saint-Justin ; Montre‡al :$fImpr. Gagne‡).

300        0001$a175p. :$ben majeure ptie ill., fac-sim.,
               portr. ;$c23cm.
500        0001$a"L'e‡mission de te‡le‡vision "Pierre Elliot
               Trudeau, portrait intime" a e‡te‡ re‡alise‡ par Guy-V.
               Robillard". - P. [6].
504        0001$aBibliographie: p. 77 a' 85.
650   9   0001$aPremiers ministres$zCanada$xBiographies.
650   0   0002$aPrime ministers$zCanada$xBiography.
700  10   0001$aStanke‡, Alain,$d1934-
730   1   0001$aPierre Elliott Trudeau, portrait intime
               (E‡mission de te‡le‡vision)
900  10   0001$aTrudeau, Pierre Elliott
970  10   0001$aStanke‡, Alain.
973  01   0001$aPierre Elliott Trudeau, portrait intime.
               $h[Television program]
990  00   0001$a97301ah$b73001a
990  00   0002$a90001a$b10001ad
990  00   0003$a97001a$b70001ad
Anymore?(edit commands,file,store or cancel)
CANC
Record has been cancelled
Account=5509,User name=A001,Subaccount=5509,S
Account=5509,User name=A001,Subaccount=5509,System=Biblio,Processor=edit
(Press return or enter processor name)
```

```
Access key: /medusa and the snail
There are 3 Records with this key
Enter record level or key level browse commands
+3
 01:mss  rsn=05635007 tag=245 *The medusa and the snail*Thomas, Lewis*1979*
 02:cis  rsn=55045701 tag=245 *The medusa and the snail*Thomas, Lewis*
 03:uni  rsn=10742417 tag=245 *The medusa and the snail*Thomas, Lewis*1979*
End of record list reached
Enter record level or key level browse commands
n
Next key:/medusa and the sna  ,
MEDUSA AND THE SNAIL
Enter key level browse commands
d
There are 3 Records with this key
Enter record level or key level browse commands
+3
 01:mss  rsn=05635007 tag=245 *The medusa and the snail*Thomas, Lewis*1979*
 02:cis  rsn=55045701 tag=245 *The medusa and the snail*Thomas, Lewis*
 03:uni  rsn=10742417 tag=245 *The medusa and the snail*Thomas, Lewis*1979*
End of record list reached
Enter record level or key level browse commands
n
Next key:6/fruits
There are 11 Records with this key
Enter record level or key level browse commands
.6/vegetables
There are 3 Records with this key
Enter record level or key level browse commands
+3
 01:uni  rsn=10092783 tag=650 *The Oxford book of food plants*Nicholson*
 02:uni  rsn=10148653 tag=965 *Storage, processing, and nutriti*Salunkhe*
 03:uni  rsn=10733454 tag=650 *Fruit and vegetables*Duckworth*
End of record list reached
Enter record level or key level browse commands
1
RSN or RSN not in your active file
RSN or ASN is 10-092-783 *The Oxford book of food plants*Nicholson*
Do you wish to transfer from passive files?
disp
RSN 10092783 DCH  79MAR07 STA .C.N
UWO  UWO HPL MTR


010       0001$a   71458825
020       0001$a0199100063:$c55/-
100  10   0001$aNicholson,$hBarbara Evelyn.
```

```
245  14  0001$aTHE OXFORD BOOK OF FOOD PLANTS
                /$cILLUSTRATIONS BY B. E. NICHOLSON ; TEXT BY S. G.
                HARRISON, G. B. MASEFIELD [AND] MICHAEL WALLIS. --
260  0   0001$aLONDON ;$aTORONTO :$bOXFORD U.P.,$c1969. -
300      0001$aVIII, 205 P. :$bILL. (CHIEFLY COL). ;$c25 CM.
                -
DO YOU WISH TO TRANSFER FROM PASSIVE FILES?
NO
ACCESS KEY: 1/BERTON PIERRE
THERE ARE 49 RECORDS WITH THIS KEY
ENTER RECORD LEVEL OR KEY LEVEL BROWSE COMMANDS
.2/DIONNE YEARS
THERE ARE 1 RECORDS WITH THIS KEY
ENTER RECORD LEVEL OR KEY LEVEL BROWSE COMMANDS
+1
 01;HSS  RSN=05596640 TAG=100 *THE DIONNE YEARS*BERTON, PIERRE*
END OF RECORD LIST REACHED
ENTER RECORD LEVEL OR KEY LEVEL BROWSE COMMANDS
N
NEXT KEY:/WALPOLE HUGH
THERE ARE 2 RECORDS WITH THIS KEY
ENTER RECORD LEVEL OR KEY LEVEL BROWSE COMMANDS
+2
 01;SHNA RSN=05507312 TAG=100 *WALPOLE, HUGH*WALPOLE, HUGH*
 02;HSS  RSN=05622860 TAG=100 *ROGUE HERRIES*WALPOLE, HUGH*
END OF RECORD LIST REACHED
ENTER RECORD LEVEL OR KEY LEVEL BROWSE COMMANDS
/

WALPOLE HUGH
ENTER KEY LEVEL BROWSE COMMANDS

WALPOLE HUGH # 1884
ENTER KEY LEVEL BROWSE COMMANDS
D
THERE ARE 3 RECORDS WITH THIS KEY
ENTER RECORD LEVEL OR KEY LEVEL BROWSE COMMANDS
+3
 01;SHNA RSN=61301937 TAG=100 *WALPOLE, HUGH*WALPOLE, HUGH*
 02;UNI  RSN=10072104 TAG=700 *THE PRIVATE LETTER-BOOKS OF*SCOTT, WALTER*
 03;UNI  RSN=10546231 TAG=100 *THE APPLE TREES*WALPOLE, HUGH*
END OF RECORD LIST REACHED
ENTER RECORD LEVEL OR KEY LEVEL BROWSE COMMANDS
/
WALPOLE HUGH # 1884
ENTER KEY LEVEL BROWSE COMMANDS
```

BCUC FEATURE COMPARISON -- USER INSTRUCTIONS

CRITERIA	WLN	UTLAS
1.0 Is the documentation indexed?	1.0 No.	1.0 Partially - the Newsletter is indexed
2.0 Are there samples of the procedures within the text?	2.0 Yes.	2.0 In the terminal operator's guide - yes.
3.0 Does the documentation follow the different operations from beginning to end?	3.0 In some cases it does. For example, the inquiry reference manual.	3.0 In a very general sense - again refer to the terminal operator's guide.
4.0 Preparation		
4.1 a) What is the procedure for creating and releasing new or updated documentation?	4.1 a) Many changes appear only in the technical bulletins. Reference manuals not revised for each new change.	4.1 a) The document is prepared by the Network Client Marketing Staff and the necessary technical staff.
b) Who is responsible for writing?	b) The responsibility is not assigned to one person. Both WSL and WLN staff initiate change announcements. At present, no staff member is responsible for program documentation.	b) Various staff. UTLAS has a technical writer on the staff as of September 1979.
c) Who reviews the draft?	c) The draft announcement is reviewed by whomever is responsible for the subsystem in question among the network staff. In addition, at least one user of the system will review the announcement upon request from WLN.	c) UTLAS management.
4.2 a) What is policy on features? The documentation accompanies the announcement of a new feature?	4.2 a) New features are not "released": (that is made public) until documentation of some part is available. The feature may be on the system, but users are unaware of it.	4.2 a) Yes - often in a separate notice, or in the newsletter, or on the system log-on.
b) Are there guinea pig users who check out a new feature prior to general announcement of the features released?	b) There are guinea pig users, who test out new features.	b) Yes - e.g., CISTI and NLC for REFCATSS, and Missessauga Public for Authorities.

BCUC FEATURE COMPARISON -- USER INSTRUCTIONS

CRITERIA	WLN	UTLAS
5.0 What portions of the system are not included in the user documentation?	5.0 There are only a few miscellaneous commands in the system that have not been sufficiently tested to be released. There are commands for network staff that are documented, but not available for users. There are a few commands and features especially in the acquistion system that appear in the documentation, but are not implemented.	5.0 No major pieces missing now that authorities documentation is almost complete.
6.0 Updates		
6.1 How often is the user documentation updated?	6.1 Not often, and not on a regular schedule.	6.1 As needed, the terminal operator's guide was last updated in Sept. 1979. Several new product descriptions have been written in early 1979. Complete list attached.
6.2 What is the date of the last update?	6.2 Refer to individual manuals; some are Spring 1979 and some are 1977.	6.2 Varies by manual and subject. Much has been revised in 1979.
7.0 Is the documentation clear and easy to use? Understandable?	7.0 The documentation is uneven. The earlier Boeing documents are too abstract. To revise the documentation to make it consistently satisfactory, WLN estimates that it would require 2 years at the level of 1.5 FTE.	7.0 Most.

UTLAS DOCUMENTATION

(as of Oct. 2, 1979)

UTLAS documentation has been divided into two series - "Standard Product Descriptions" - and "Technical Documents".

The following is a list of these documents now available or in preparation. One copy of each new or revised document is normally sent to each CATSS user free of charge. Additional copies, and copies for non-CATSS users are available from UTLAS at a cost of $2.00; prepayment is required. (Technical Document, no. 1 is $25.00; nos. 12 - 15 are $5.00)

STANDARD PRODUCT DESCRIPTIONS

No. 1 Streamed catalogue cards

Document publication date: *July 1979

This product consists of catalogue cards produced in batches or streams ready to be filed into the individual catalogues of the client library.

No. 2 Distributor card sets

Document publication date: October 1979

This product is designed to be used by central processing agencies who distribute sets of cards to their own clients.

No. 3 Single shelf list (SSL) cards

Document publication date: September 1979

This product consists of a single stream of shelf list cards and is specifically designed for users who receive COM (Computer Output Microform) catalogues instead of streamed catalogue cards.

No. 4 Book catalogues, microform catalogues & acquisition lists

Document publication date: *September 1979

No. 5 Book pocket and spine labels

Document publication date: *October 1979

(Previously part of the document on catalogue cards.)

*Revision of an earlier document

No. 6 BATCH CATSS

Document publication date: February 1979

BATCH CATSS consists of products and procedures designed for users who are interested in large scale retrospective conversion (RECON) operations.

No. 7 Edit lists

Documentation publication date: March 1979

This product is designed to be used by technical services staff who wish to perform off-line checking and editing of MARC records.

No. 8 Magnetic tape service

Document publication date: *April 1979

The library's own records in standard MARC communication format on magnetic tape for in-house library applications.

No. 9 On-order lists

Document publication date: August 1979

This product provides a listing service of items which have on-order status for the library arranged by agent.

No. 10 CIRC system overview

Document publication date: January 1978

CIRC - now called LCMS (Local Collection Management System) - is a mini-computer based system designed to manage the library's local collections.

No. 11 New publications awareness listing

Document publication date: September 1979

This product is designed to provide a timely current awareness service on new publications found in the MARC distribution services of national agencies such as LC, NLM, NLC, BNB, etc.

No. 12 Authorities COM

Document publication date: December 1979

A COM (Computer Output Microform) catalogue consisting solely of authority records rather than a mixture of authority and bibliographic records.

---

*Revision of an earlier document

No. 13 "NOISE" Notification and Information or Source Entries

Document publication date: September 1979

This product provides a listing service of conflicts between a local or group authority file and those records issued by national agencies (LC, NLC, Repertoire de vedettes-matiere)

No. 14 KWIC Index (Key word in context)

Designed to be applied to any groups of records in the UTLAS system.

Draft available in September.

TECHNICAL DOCUMENTS

No. 1 Terminal operator's guide

Document publication date: *September 1979, 3rd edition.

A complete guide to the operation of a computer terminal with the UTLAS/CATSS system.

No. 2 Filing rules in UTLAS products
(under revision)

Document publication date: *March 1979

No. 3 Error messages in UTLAS products

Document publication date: May 1979

A description and explanation of the error messages which accompany UTLAS products.

No. 4 Notes on the coding of authority records

This Technical Document has been superceded by the British Columbia Union Catalogue Project Authorities Coding Manual and by Technical Document, No. 6.

(BCUC address: 7671 Alderbridge Way, Richmond, B.C.)

No. 5 NLM-MARC format: impact on LHF3 record content

Document publication date: February 1979

This document details the specifics of the MARC format as used by the NLM (U.S. National Library of Medicine) and how these specifics have treated the UTLAS internal MARC format (LHF3).

---

*Revision of an earlier document

No. 6 How to use the UTLAS authority system (in preparation)

Document publication date: November 1978

A detailed description of the functional aspects of the UTLAS authorities facility. This document replaces the earlier document entitled "CATSS on-line access package and the authorities facility" on the topic of authorities. Information from this earlier document on the topic of the extended access package (browsable access) is now included in the UTLAS Terminal Operator's Guide (3rd edition, September 1979).

No. 7 The coding of the 090 field and its relation to product generation

Document publication date: May 1979

This document describes the coding which UTLAS recommends be used in the 090 field (the field which records a library's local call number and holdings data on an item) in order to ensure the best possible product generation.

No. 8 Standard processing of bilingual MARC records (under revision)

Document publication date: April 1979

This document describes the various bilingual capabilities of UTLAS products.

No. 9 Specifications for Optical Character Recognition OCR input to BATCH CATSS

Document publication date: January 1978

No. 10 Specifications for magnetic tape input to BATCH CATSS

Document publication date: January 1978

No. 11 The RSN Supplement Index (How catalogue supplements are maintained for individual users in a Union file environment)

Document publication date: September 1978

No. 12 Library Holdings Format for Standardized MARC Bibliographic Records (LHF3)

The single MARC format, integrated for all types of library materials, which UTLAS uses for the storage of both source file and user data bases of bibliographic records.

Note: All Formats 12 - 14 are revised regularly as changes are made by national agencies.

No. 13 Library Holdings Format for Standardized MARC Authority Records (LAF)

The same as 12 but for authority records.

BCUC FEATURE COMPARISON -- GENERAL MANAGEMENT AND ORGANIZATION

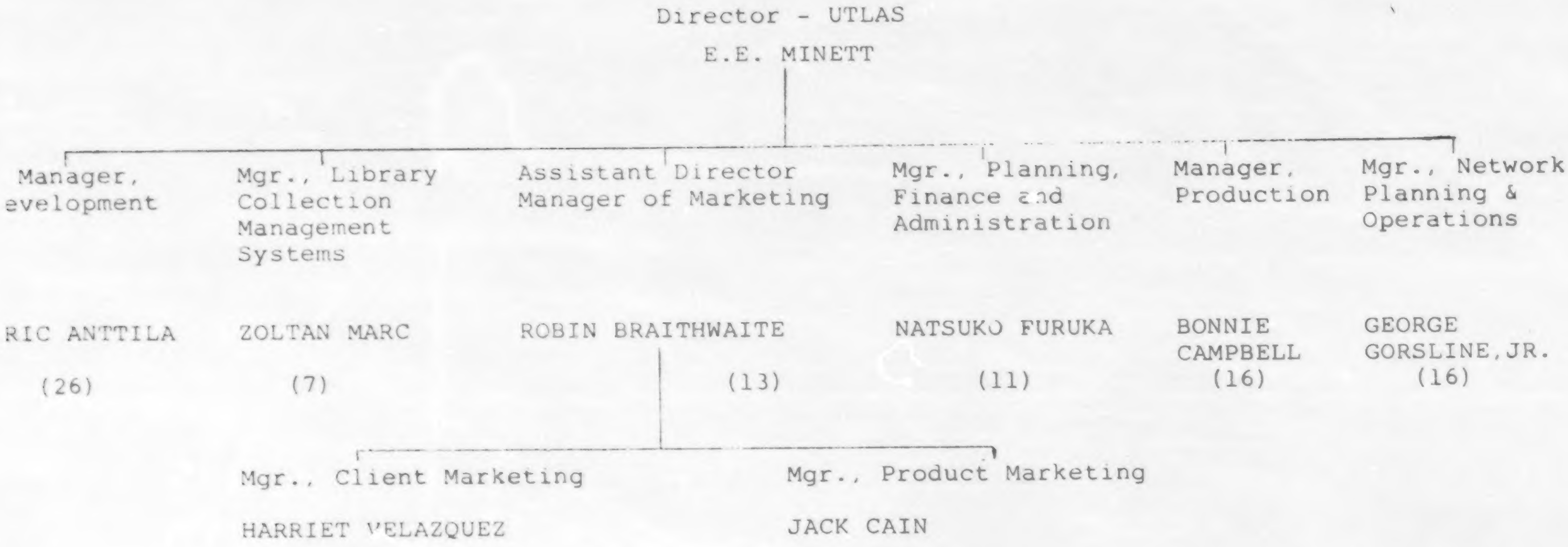
CRITERIA	WLN	UTLAS
1.0 Organization		
1.1 Provide an organization chart.	1.1 See attached. In addition to the WLN staff, support is provided by the WSU computer center and the WSL staff.	1.1 See attached.
1.2 How many people are involved in each of the major units?	1.2 See attached.	1.2 See organization chart.
1.3 How many staff are directly involved in running the system?	1.3 Approximately 12. See attached.	1.3 Network Planning & Operations (16) and Production (16) and Client Marketing (7) = 39.
2.0 Development Funding		
2.1 How will development of new subsystems and features be financed?	2.1 External grants. No more than 25% of current WLN staff allocated to development.	2.1 From current revenues.
3.0 User Participation		
3.1 How do the users indicate their preferences for system development?	3.1 a) Formal meetings (e.g., at PNLA in Boise). There are 53 participants at present. b) Committees are used to develop specifications. c) Informal contacts, in person, telephone and letter. d) Some survey of users on features.	3.1 User libraries have input through a variety of mechanisms. Marketing representatives meet with users on a regular basis. There are also several users groups which meet. UTLAS retains the responsibility for determining the priority of development.
4.0 Growth		
4.1 What is the potential growth over the next three years?	4.1 Direct to 250 terminals (130 at present). Indirect via circulation systems over 400 is possible (link not yet available).	4.1 Conversion to Honeywell Level 66 is scheduled to begin early in 1980. Capacity will more than double in three years.
4.2 Where will this growth come from?	4.2 Both new participants and expanded use by present partipants (e.g. acquisitions).	4.2 Atlantic Provinces, Prairie Provinces, Northeastern U.S., and additional services to present libraries.

BCUC FEATURE COMPARISON -- GENERAL MANAGEMENT AND ORGANIZATION

CRITERIA	WLN	UTLAS
4.3 Will new features and systems be required to obtain this growth?	4.3 Some new features, e.g., inter-library loan, to fulfill a development plan.	4.3 Three subsystems will aid the growth -- circulation, acquisitions, and serials.

March 26, 1979

UTLAS ORGANIZATION


Director - UTLAS
E.E. MINETT
Manager, evelopment
RIC ANTTILA
(26)
Mgr., Library Collection Management Systems
ZOLTAN MARC
(7)
Assistant Director Manager of Marketing
ROBIN BRAITHWAITE
(13)
Mgr., Planning, Finance and Administration
NATSUKO FURUKA
(11)
Manager, Production
BONNIE CAMPBELL
(16)
Mgr., Network Planning & Operations
GEORGE GORSLINE, JR.
(16)
Mgr., Client Marketing
HARRIET VELAZQUEZ
Mgr., Product Marketing
JACK CAIN

umbers in ( ) give the staff FTE in each group.

1.2 (and 1.3)

9/12/79

General Management and Organization

	WLN Staff	WSL Staff	WSU Computer Center Staff (100 people in total)
Administrative Support	-	2.5[1]	-
Training, Development & Documentation Support	-	1.5	-
Database Maintenance Quality/Context Support	-	3.5[2]	-
Marketing and Library Support	3	-	-
System Maintenance & Programming			
Acquisitions	1[3]	-	0.5 (batch runs)
Bibliographic	1[4]	-	0.25 ADABAS
Database Adm.	1	-	1 - 2 WLYBUR [5]

[1] Includes Network executive office research and dvelopment, personnel and business office.

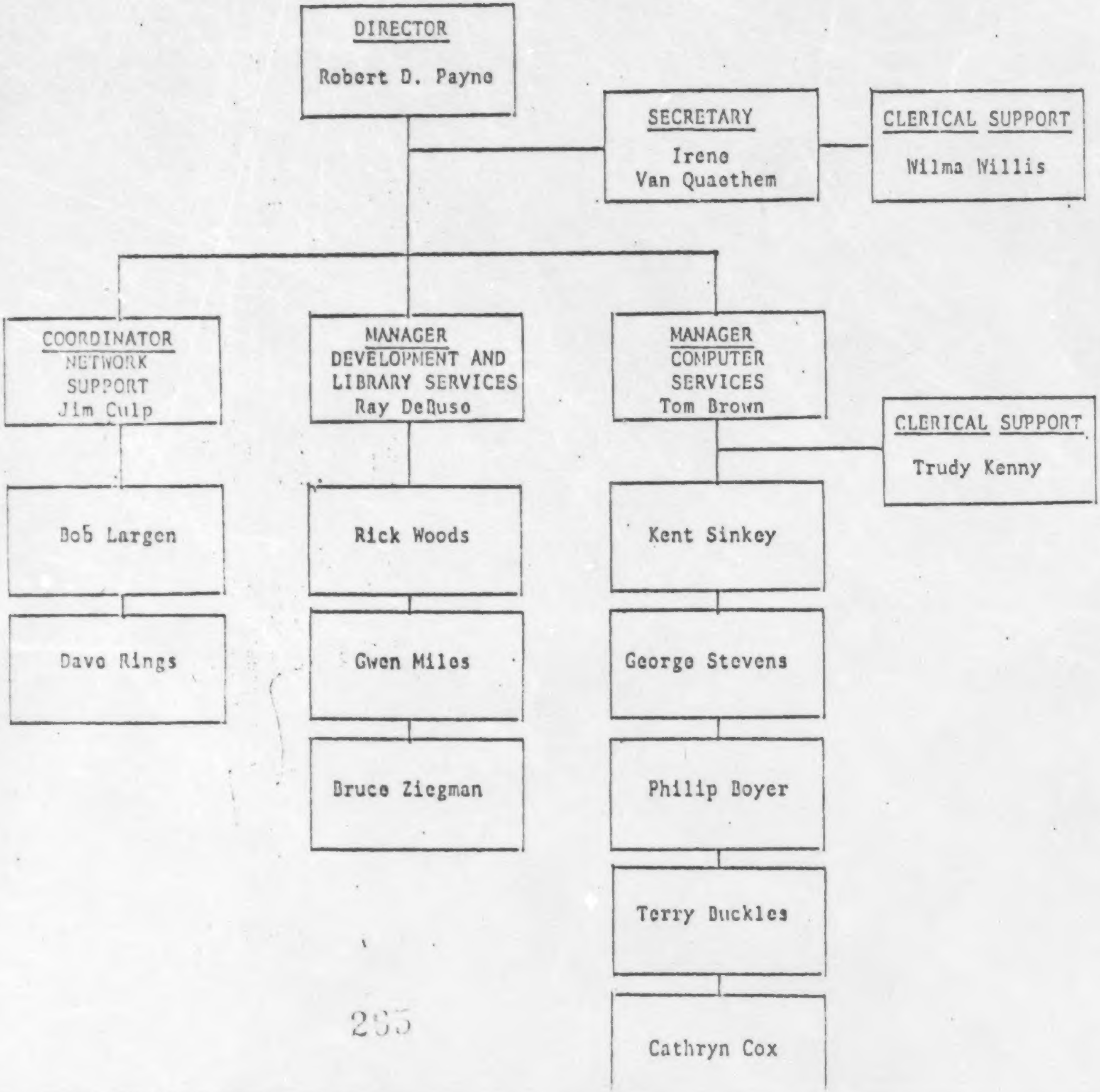
[2] Professional, 1 FTE; and clerical, 2.5 FTE.

[3] About 50% each in operations and development.

[4] About 50% each in operations and development.

[5] WYLBUR is available to all computer users.
(Daily batch runs are set-up and maintained by programming group.)

WLN DIVISION
7/24/79
B-40


DIRECTOR
Robert D. Payne
SECRETARY
Irene Van Quaethem
CLERICAL SUPPORT
Wilma Willis
COORDINATOR
NETWORK SUPPORT
Jim Culp
MANAGER
DEVELOPMENT AND LIBRARY SERVICES
Ray DeRuso
MANAGER
COMPUTER SERVICES
Tom Brown
CLERICAL SUPPORT
Trudy Kenny
Bob Largen
Dave Rings
Rick Woods
Gwen Miles
Bruce Ziegman
Kent Sinkey
George Stevens
Philip Boyer
Terry Buckles
Cathryn Cox

BCUC FEATURE COMPARISON -- REPLICATION INFORMATION

CRITERIA	WLN	UTLAS
1.0 What information is given to the institution who chooses to replicate the software?		1.0 Not applicatble. NOTE: UTLAS plans to make the version of CATSS which will operate on the Honeywell Level 66 replicable.
1.1 System documentation	1.1 Yes. There is both program and user documentation for the bibliographic and acquisitions systems.	
1.2 Program documentation (including macros, tables, subroutines, utilities)	1.2 Yes.	
1.3 Is the replicated institution given source or object code?	1.3 Source code and object code (load modules) will be provided.	
1.4 Run instructions	1.4 Yes, but it is Boeing Computer System's run instructions and may need modification.	
1.5 Run jcl	1.5 Yes, but would most likely need to be modified to match operating system and conventions of user.	
1.6 Control forms	1.6 No, but can supply program check-out routines currently available under Wylbur.	
2.0 What is the training program for replication?		2.0 Not applicable.
2.1 Operations staff	2.1 One operations person from user's site must spend one month in WSU computer facility becoming familiar with the system operation.	
2.2 Programming staff	2.2 Up to one month working with the WLN programming staff.	
2.3 Control staff	2.3 None.	
2.4 "Network" staff	2.4 Two weeks concentrated training at user's site, and user's staff must attend WLN MARC schools and spend additional time at WLN staff office.	

BCUC FEATURE COMPARISON -- REPLICATION INFORMATION (CONT'D)

CRITERIA	WLN	UTLAS
2.5 What recourse does the replicated user have to resolve problems during the first year of operations?	2.5 Phone contact as needed.	
3.0 What is the procedure for bringing up the software in the replicated facility?	3.0 See attached.	3.0 Not applicable.
4.0 What is the acceptance test criteria?	4.0 See attached.	4.0 Not applicable.
5.0 What happens to any guarantees or warranties, if the software is modified?	5.0 See attached.	5.0 Not applicable.
6.0 Does the replicated institution receive software updates, as well as documentation updates?	6.0 Yes.	6.0 Not applicable.
7.0 Staff		
7.1 How many staff are needed to run a replicated system?	7.1 Systems and Programming - one data base Administrator with knowledge of ADABAS. One teleprocessing specialist with knowledge of CICS, terminals, and terminal networks. One programmer analyst with some knowledge of BAL and COBOL for source file maintenance. Computer Operations - ADABAS maintenance - 1/4 FTE CICS maintenance - dependent upon the version.	7.1 Not applicable.
7.2 What would each staff member's responsibility be?	7.2	7.2 Not applicable.

BCUC FEATURE COMPARISON -- BIBLIOGRAPHIC RECORD MANAGEMENT

CRITERIA	WLN	UTLAS
1.0 General Knowledge		
1.1 Is the resource file LC MARC compatible?	1.1 Yes.	1.1 Yes.
1.2 What data fields have been dropped from the LC MARC format?	1.2 None	1.2 None.
1.3 What data fields have been added to the LC MARC format?	1.3 Local holdings and institution dependent notes and headings. WLN adds control information.	1.3 Control fields - system ID numbers (RSN), data of last change, time of last change, record type code, process type of last change, record status code, operation number of last change, update codes, date of source file creation, date of user's last change, ancestor RSN, RSN linkage. There are other additions to accommodate NLC and local user requirements. See attached format.
1.4 What data fields have been changed in the LC MARC format?	1.4 No particular data field is changed, unless an error is detected by a system user in which case WLN staff may change the record after careful review.	1.4 None.
1.5 What fields are available for local (i.e., user) data?	1.5 a) Summary holdings data: local call number, physical description, volume or copy holdings. b) Detailed holdings will be copy level information, but not piece control as in circulation. c) Institution-dependent headings and notes.	1.5 There is an indicator that may be used for any MARC field, and it indicates local use. In addition some fields are only for local use, e.g. 035, and 090. Also see attached format.
1.6 Can an LC MARC communication file be created as output?	1.6 Yes. WLN supplied LC with COMARC records through the reconstruction of records in the MARC II communications format.	1.6 Yes.
2.0 Describe the record structure.	2.0 It retains all information contained in the MARC II communications format, but distributes it in a data base structure defined with ADABAS.	2.0

BCUC FEATURE COMPARISON -- BIBLIOGRAPHIC RECORD MANAGEMENT
(CONT'D)

CRITERIA	WLN	UTLAS
3.0 What are the enforceable standards for quality of data input?	3.0 The standard is LC, except where different from WLN. RECON only . The standard is enforceable, because no record except those from LC MARC Distribution Service is added to the bibliographic data base until WLN/WSL staff review and release the record. WLN has a draft standards document.	3.0 There are none. Each user retains control of the quality of the records used. There is a standard which was established by the UNICAT/TELECAT consortium. Other users follow it. Where a record is below standard, fixed field 32 is coded accordingly and a flag is set at the hit list level to warn searchers.
4.0 How is a new record released for general use?	4.0 a) Interim records are immediately available without review. b) Full bibliographic records are released after review by WLN/WSL Bibliographic Maintenance Staff and a after a final check (by the system) for duplicates.	4.0 The data is keyed into the system. The headings are verified automatically if the authority facility is used. The record may or may not be reviewed by another library employee. Finally the record is "released" for addition to the user's data files, and perhaps generation of products if the user's profile calls for them.
5.0 What other means can be used to release records?	5.0 LC MARC records are added to the bibliographic data base without review. A program or table change could be made to immediately add user records to the bibliographic data base. Otherwise, all records from users must be reviewed as is now the case.	5.0 The record may be copied, local information appended, then "released" with or without review and with or without product generation.
6.0 What verification is needed for a new record-the manual and system components?	6.0 Manual - Review appropriateness of tagging and correct forms of entry. See Appendix __ for specific instructions. System - There are two general kinds of verification or checking done by the system. First, the record is automatically routed through a prescribed sign-off, a manual release from one stage results in routing the record to the next stage until all manual sign-offs have been completed. Second, before the record has completed the	6.0 None is required. The system can verify the headings in the authority files. The user may have someone review the record.

BCUC FEATURE COMPARISON -- BIBLIOGRAPHIC RECORD MANAGEMENT (CONT'D)

CRITERIA	WLN	UTLAS
6.0 What verification is needed for a new record-the manual and system components?	6.0 (Cont'd) final sign-off, the system does a check for duplication, 1) on the LC card number; 2) title keyword plus author; 3) title keyword and next addded entry; 4) authority check.	
7.0 Duplicate Records		
7.1 How are duplicate records identified?	7.1 System detects duplicates when the LC MARC subscription tapes are added and when a record is released to the bibliographic file. Users can notify WLN staff of other possible duplicates.	7.1 Normally, a user cannot add duplicate records to his own file. An on-line check is made for duplicates. However, there are many intentional duplicates in the whole data base and these are linked by SNR in the control fields.
7.2 If an LC record is updated, are all user holdings updated?	7.2 Yes. Holdings records "point" to bibliographic file records, so an update to bibliographic automatically results in update to user files.	7.2 User bibliographic files are not affected by LC bibliographic updates. LC authority records updates will affect user bibliographic files if they are linked.
7.3 If LC releases a record that matches a non-LC record, what happens?	7.3 System or automatic search on LC number (RID), then title key word and author name and added entries. If a possible duplicate is detected, then duplicate records put in a file for manual review by WLN/WSL Bibliographic Maintenance Staff.	7.3 In the new file architecture (NFA) an LC record "bumps" a duplicate "orig" record, but user records are never bumped.
7.4 If other resource subscription records, a) match an existing LC record, what happens?	7.4 There are no other subscriptions as of now, but if there were, these could be handled in the same manner either as the LC MARC records or as the library supplied records.	7.4 a) Add source code to the holdings for that access point. Both records are retained.
b) match a user record, what happens?		b) Same as 7.4a.

BCUC FEATURE COMPARISON -- BIBLIOGRAPHIC RECORD MANAGEMENT (CONT'D)

CRITERIA	WLN	UTLAS
7.5 In a union catalog, how are duplicates identified and resolved?	7.5 This is not a problem, because all holdings records "point" to bibliographic file records. Duplicates are minimal in the bibliographic file and are not merged when processing for a union catalog. In the future, if a second collection data base was established, duplication between the first and second data base would need to be identified and resolved.	7.5 The means depends on the file structure. There is no problem if all holdings are appended to one bibliographic record, or if duplicate bibliographic records have linking RSNs. Otherwise, the records would be shown separately.

VLM SERIALS WORKSHEET

B-47

C TYPE a	BIB LEV S	ENC LEV	RID	Check against CAS, CAT S	REPLACE RID

PUB STAT agree w/ DAT	BEG DATE agree with DAT	
END DATE agree with DAT		CNTRY IMP
FREQ agree w/ FRQ REGLTY	REGLTY agree w/ FREQ	INDX KEY ISSN
TYPE SER agree w/ text	PHY MED agree w/ text	REPRO agree w/ text
TYPE MAT agree w/ TIL SUT	CONTENTS agree w/ NO_	GOVT PUB IMP
CONF agree w/ MEM SUT, TIL	FI PG	INDEX
CUM IND NOM	ORG ALPH KEY	S/L ENTRY FOR NOY
MOD REC	CAT S RID CAS	CAT FORM

E

Correctly tagged, esp., whether MEC or MEM.
Correct form of name.

ote: For main entry, list verification source.

L

Initials appear in TIL ($a) - corporate main entry?
Initialisms, nos., etc. - VAA present
Look at TYPE MAT (directories, bibliographies)
Parallel title (both $b & VAT-L present?)
Indication of geographic area in TIL - GAC?

AT

Agrees with PUB STAT, BEG DAT, END DAT

AP

IMP-R present? Then AE_ must be alternative (A).
ME_ present, no $b in IMP, Then X must be present.
Place represented in CNTRY.
Government publication? So indicated in GOVT PUB ?

OL

Regardless of what SE_ is (are) used, corresponding
MAS (s) must be present.

Note: For subject and other added entries, list verification source.

DDITIONAL
CKS:

spelling
following
current
cataloging
practices
punctuation
capitalization
tagging
sense within
a record

LINKING:

OTHERS:

NOTES:
NOY (ind. ␢) - AE_-A present?
NOYX - additional info. present? S/L ENTRY checked?
different ME_ present? S/L ENTRY checked?
NOG (series) - MAS present?
NOX - REPRO checked?
NOB - CONTENTS filled in?
NOF - corresponding linking entries present? 1st ind. X?
NOT - FORX present? S/L ENTRY checked?
NOL - LAN, MOD REC checked?
NOM - CUM IND checked?
NOE - added entries? Secondary?

AEG - [illegible] TIL?)

SUBJECTS:
subdivisions and FFD in agreement?
(TYPE MAT, CONTENTS, CONF)
correct form of entry?
geographic orientation (GAC)?

OTHER ADDED ENTRIES
correct form of entry?
AEG - PHY MED, TYPE SER
justified

FRQ agrees w/ FREQ, REGLTY?
ABB present w/o KEY?
FOR present - S/L ENTRY checked?

F | GAC | SSN

AN ‡a ‡eng NOL, MOD REC, [illegible]

CAL 1st ind., $b, CAS, RID

DC

CAS RID, CAT S

[illegible] (Rev 8-76) cat for

VLN BOOK WORKSHEET [MONOGRAPHIC]

8/14/79 B-48

EC TYPE	BIB LEV	ENC LEV	RID	compare with CAT S, CAS	REPLACE RID
a	m				

ME — check that choice of ME is justified by AACR; form is correct AACR ith proper abbreviations & punctuation; if birth date of MEP before 1920, check data base to see if heading has been updated; compare with TIL and IMP for ME in B; compare with CONF.

Note: For main entry, list verification source.

TI

IL — division between "a" and "b" subfields should leave title proper fairly distinctive; break between "a," "b" subfields and "c" subfield is logical; check for correct usage of abbreviations in "c"; compare with LAN.

DN

MP — check to see that place of publishe is qualified by state (or not); check for correct abbreviations in publisher information; deletion of unnecessary publisher information; compare with CNTRY, DATE KY, DATE 1 and 2, GOV PUB

OL — should not be more than 3 groups of paging; if multi-volume, compare with NOC, if open volume compare with dates in IMP and fixed field dates; compare with ILLUS

E — question series appearing author. title form and tagged as SE-; compare SERD with SA-

Fic	Cat four new input - i
Gov pub	Index
Conf	Fest
ME in B	Date Ky
Date 1	
Date 2	
Intel Lv	Biog
Cntry	Illus
Repro	Content
Mod Rec	Cat S

Note: For subject and other added entries, list verification source.

Translation of.... - compare with LAN

if NOG "Loose-leaf for updating" appears, compare dates in IMP, "a" subfield of COL, fixed field dates.

Microfiche/film note - compare with REPRO

"Includes index" - compare with INDEX

Reprint note (or in series, IMP) - compare with fixed field dates

NOB - check that bibliograph information appears in correct note form; compare with CONTENTS

Subjects - compare with CONTENTS, GAC, BIOG, CONF, REPRO [Large type books] FEST

AE- -check that added entries are justified by information in cataloging record; check for closing dates in headings; check for correct AACR form in AEC and AEM; check correctness of second indicator

OTHERS: SA- -check known problem series; watch for generic titles ISBD punctuation, correct abbreviations

ROM - check MOD REC

AFF | GAC — should be justified by TIL, subjects

SBN — 10-digit ISBN

AN ‡a ‡eng

CAL — compare with FIC, BIOG, INTEL LV; no "b" subfield for local CALX

DDC — compare with FIC, BIOG, INTEL LV

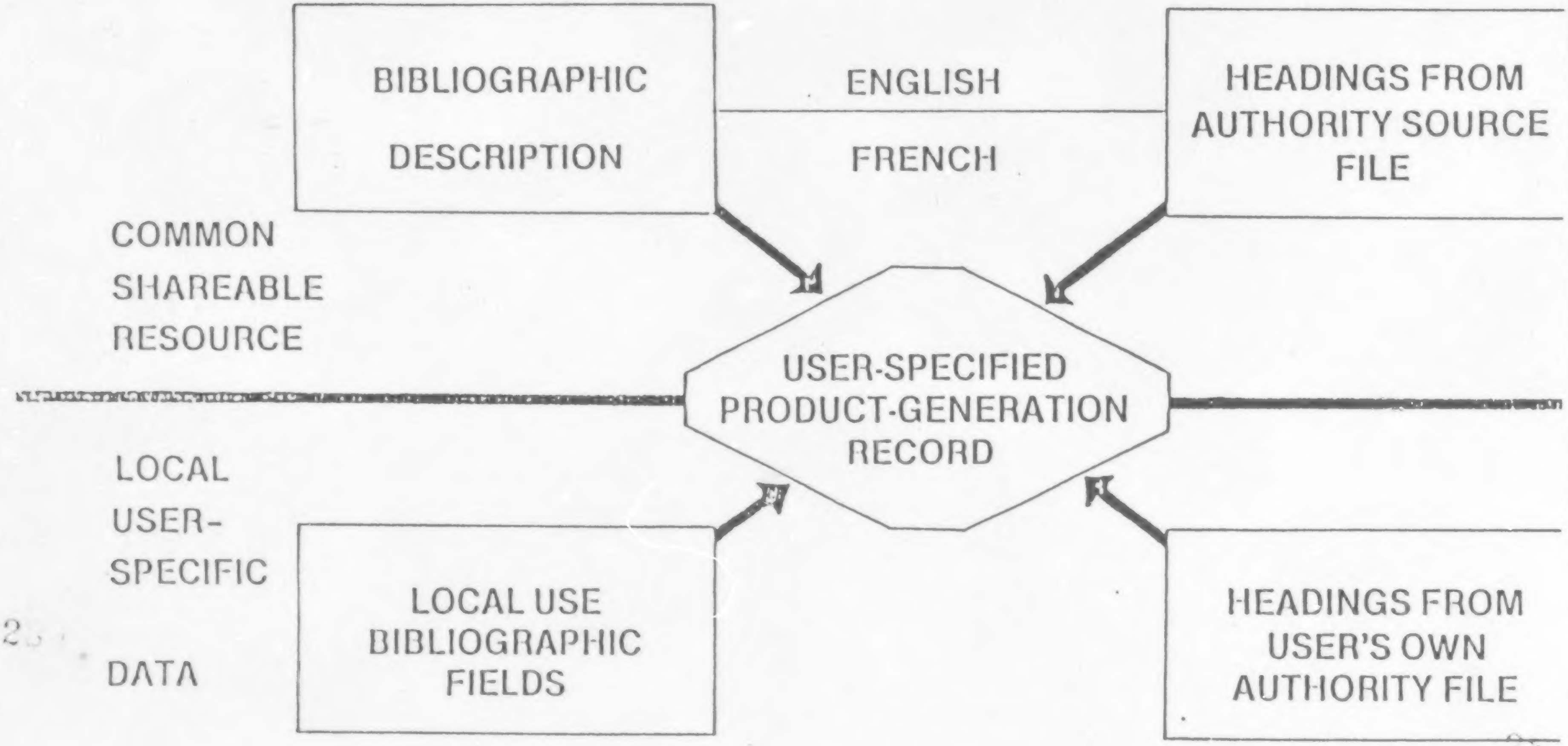
CAS — compare with CAT S; if no "a" check RID, should be LC#; if cooperative library in "a" check "c" in CAT S

IB12-1a (Rev 7 76) | cat for

Table 5

UTLAS - BIBLIOGRAPHIC RECORD
MANAGEMENT

BASIC RECORD CONFIGURATION — UTLAS



BIBLIOGRAPHIC DESCRIPTION

ENGLISH

FRENCH

HEADINGS FROM AUTHORITY SOURCE FILE

COMMON SHAREABLE RESOURCE

USER-SPECIFIED PRODUCT-GENERATION RECORD

LOCAL USER-SPECIFIC DATA

LOCAL USE BIBLIOGRAPHIC FIELDS

HEADINGS FROM USER'S OWN AUTHORITY FILE

INDEX COMPONENTS

CURRENTLY AVAILABLE (for 7 million records)

RECORD SEQUENCE NUMBER (RSN) & Authority Sequence Number (ASN)
INTERNATIONAL STANDARD BOOK NUMBER (ISBN)
INTERNATIONAL STANDARD SERIAL NUMBER (ISSN)
LIBRARY OF CONGRESS CARD NUMBER (LCCN)
PRECISE TITLE
NLM CONTROL NUMBER
ACCESION NUMBER (User's Own)

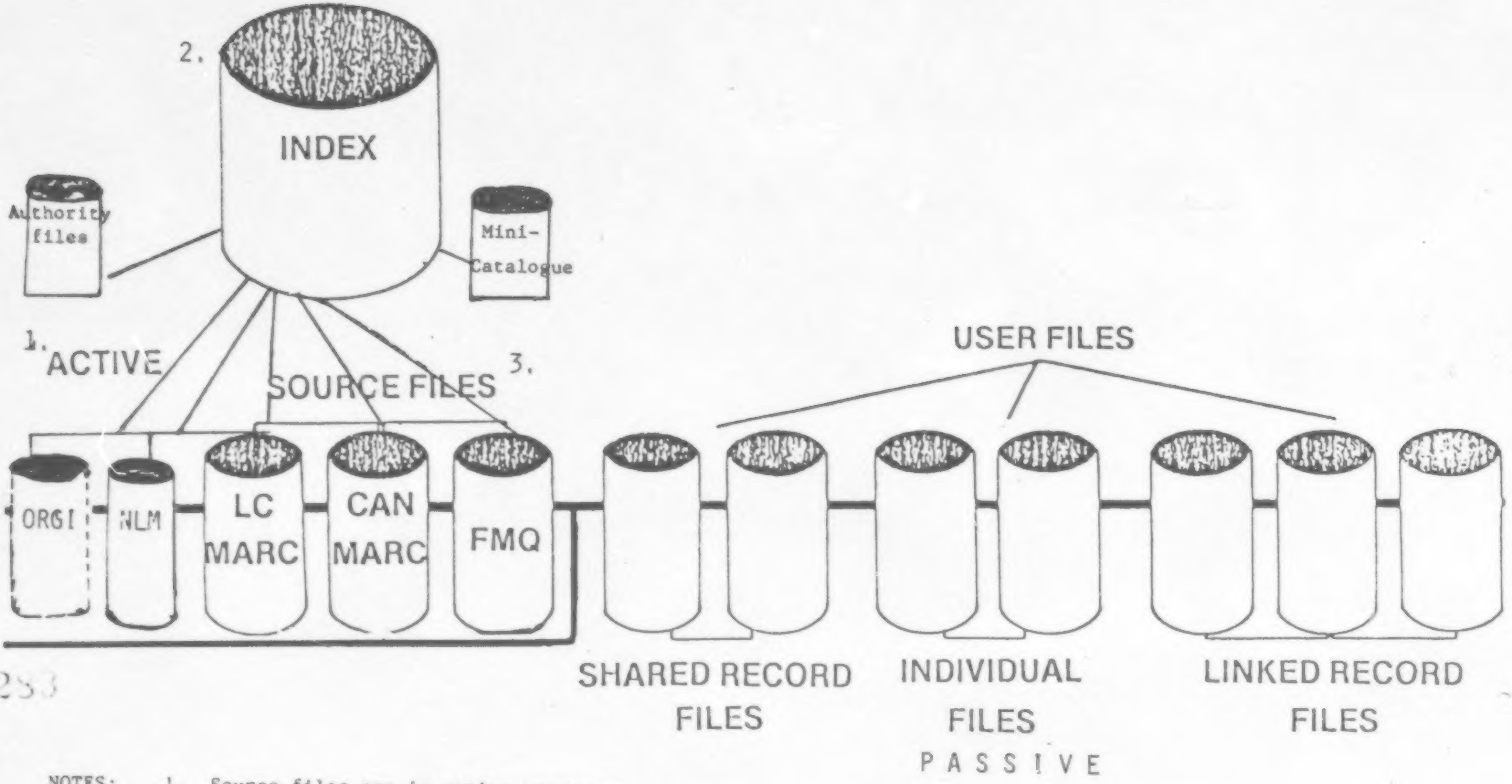
CURRENTLY AVAILABLE (for approx. 2 million records)

BROWSABLE NAME
BROWSABLE SUBJECT
BROWSABLE TITLE

PLANNED (first quarter 1980)

KEY-WORD

UTLAS FILE STRUCTURE


2.
INDEX
Authority files
Mini-Catalogue
1.
ACTIVE
SOURCE FILES
3.
USER FILES
ORGI
NLM
LC MARC
CAN MARC
FMQ
SHARED RECORD FILES
INDIVIDUAL FILES
LINKED RECORD FILES
PASSIVE

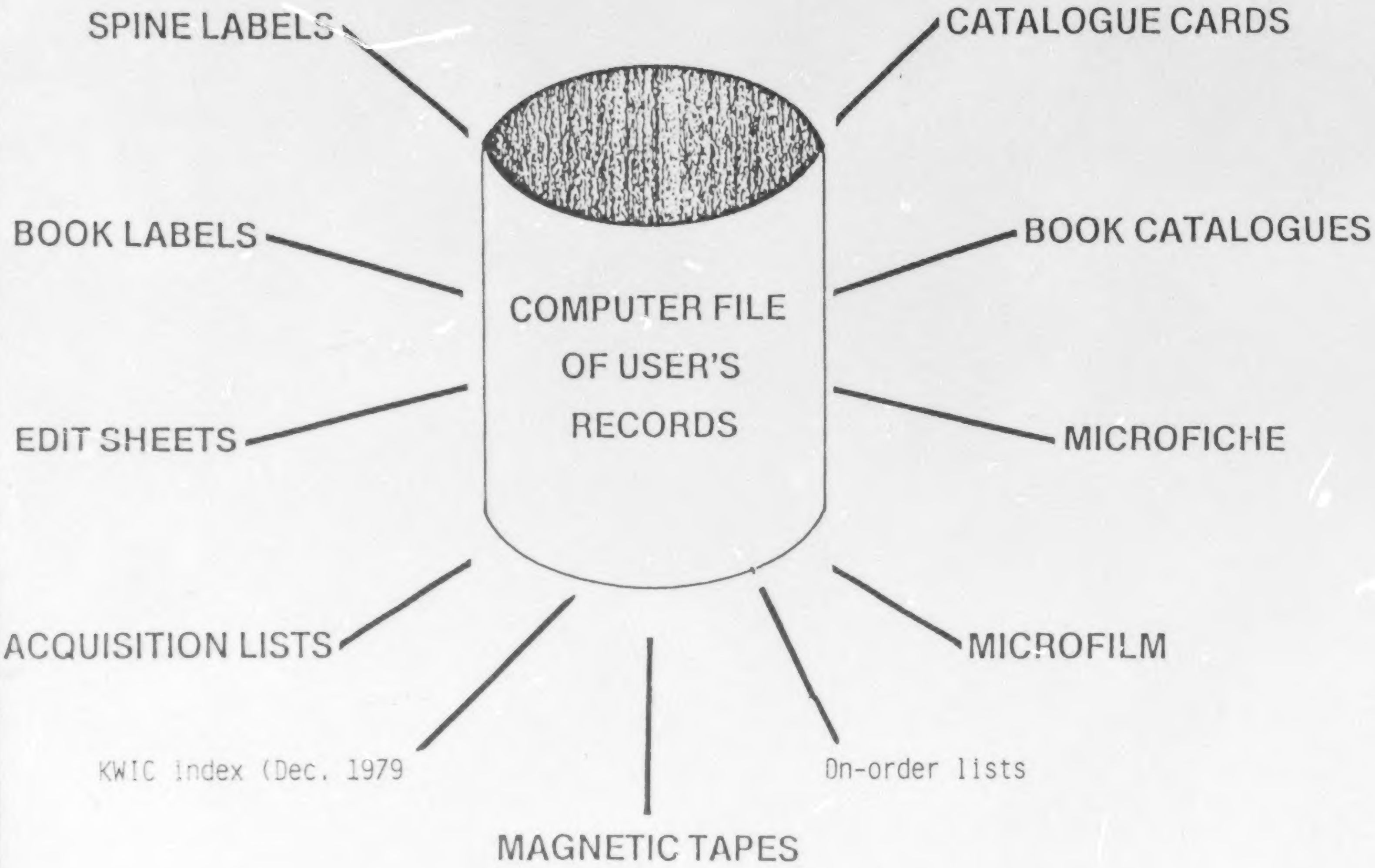
NOTES:

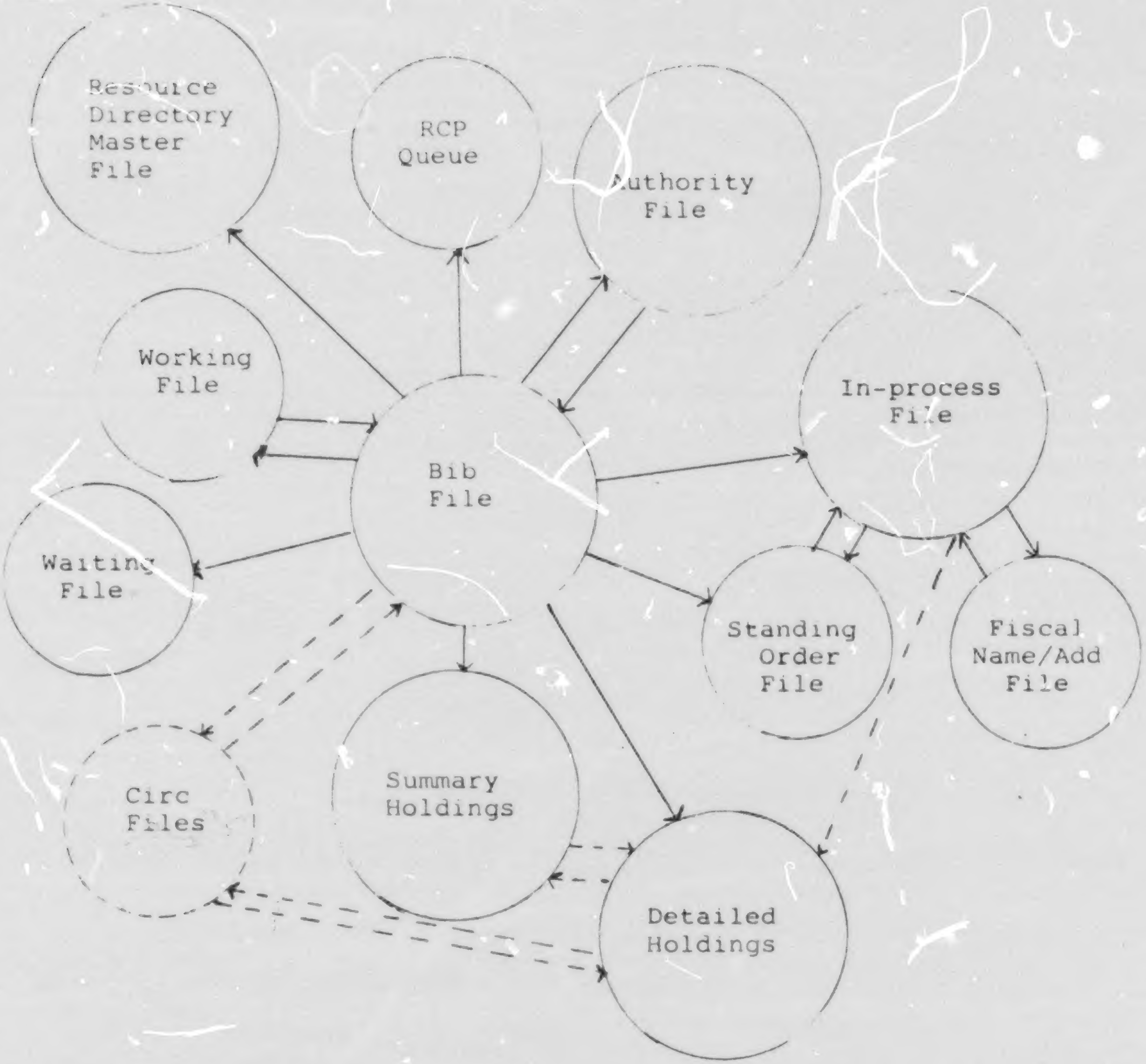
1. Source files are in active storage.
2. On-line (active) index of precise and browsable keys. With New File Architecture (begins January, 1980) index entries are made for on-line source files (including a file of unique contributed records). Links are made to duplicate records in user files.
3. Additional source files are available: COMARC, Conser, LC Authorities, SHARAF Authorities. Scheduled are: FMQ Serials, BNB, GPO, LC Music, Maps.

Table 1

UTLAS - BIBLIOGRAPHIC RECORD MANAGEMENT B-52

UTLAS PRODUCTS


SPINE LABELS
CATALOGUE CARDS
BOOK LABELS
BOOK CATALOGUES
COMPUTER FILE OF USER'S RECORDS
EDIT SHEETS
MICROFICHE
ACQUISITION LISTS
MICROFILM
KWIC index (Dec. 1979
On-order lists
MAGNETIC TAPES


Resource Directory Master File
RCP Queue
Authority File
Working File
In-process File
Bib File
Waiting File
Standing Order File
Fiscal Name/Add File
Circ Files
Summary Holdings
Detailed Holdings

Working Subfiles by Institution.

BCUC FEATURE COMPARISON -- CIRCULATION

CRITERIA	WLN	UTLAS
.0 General Information		
1.1 What is the system name?	1.1 Dataphone Automated Library Information (ALICE)	1.1 LCMS
1.2 a) How many systems are installed?	1.2 a) 10 systems. Fairfax Cty., Broward Cty., Dallas, Tacoma, SF Austin, Oral Roberts, Wichta, Greensboro, Charlotte, Atlanta, Houston, Chula Vista, INTEVEP, National Petroleum Institute of Venezula.	1.2 a) One at the University of Toronto in test operation.
1.2 b) How long has oldest been in use?	1.2 b)	b) 1978 (test).
c) Newest?	c)	c) 1978 (test).
1.3 Are all MARC formats handled by the circ system?		
a) monographs	1.3 a) Yes.	1.3 a) Yes.
b) serials	b) Yes.	b) Yes.
c) phono records	c) Yes.	c) Yes.
d) films	d) Yes.	d) Yes.
e) tapes	e) Yes.	e) Yes.
f) maps	f) Yes.	f) Yes.
g) microfilms	g) Yes.	g) Yes.
1.4 Does the system have the following functions in operation now:		
a) charge	1.4 a) Yes.	1.4 a) Yes.
b) discharge	b) Yes.	b) Yes.
c) renew	c) Yes.	c) Yes.
d) holds (name in queue for book)	d) Yes.	d) Yes.
e) reserves	e) Yes.	e) Planned 10/79.
f) film and audiovisual bookings	f) Yes - but under revision.	f) Planned 1/80.
g) interlibrary loan	g) Yes.	g) Planned 1/80.
h) branch	h) Yes.	h) Planned 1/80.
i) fine calculation & payment of fines	i) Yes.	i) Planned 10/79.
j) recall	j) Yes.	j) Yes.
k) carrels	k) Yes.	k) Yes.
l) in-process monitoring	l) Yes.	l) Yes.
m) record - count of all reshelving, i.e. also in library use of material.	m) Yes.	m) Planned 10/79.

BCUC FEATURE COMPARISON -- CIRCULATION

CRITERIA	WLN	UTLAS
1.5 What are the loan periods available and in use?	1.5 Based on parameter table comparing patron status and type of material.	1.5 Variable. Table driven with 255 options.
1.6 What are the types of borrowers?	1.6 No limit.	1.6 Variable. Table driven with 255 options.
1.7 How is the book charged if either the book has no circ identification or the borrower does not have his card?	1.7 Key in label no. or charge by title. Key in patron no. or patron name.	1.7 At the inquiry terminal.
1.8 Public Access	SF Austin using it for patron search - inquiry	
a) Can the patron search the book files?	1.8 a) Yes.	1.8 a) Yes.
b) Where is this being done now?	b) Planned for Stephen F. Austin	b) At University of Toronto Library.
c) How long has it been in use?	c)	c) 18 months.
2.0 Book Information		
2.1 What is the book identification? bar code, book card, etc?	2.1 Bar code label or OCR label	2.1 Bar code - COD-A-BAR.
2.2 What is the book or title record format?	Varies with library.	
a) fixed or variable	2.2 a) Variable(?)	2.2 a) Variable.
b) max characters (average characters)	b)	b)
c) MARC format	c) Yes - full.	c)
d) derived from MARC format	d) Can be.	d) Yes.
e) data compression - what?	e) ?	e) Yes - ASCII. 8 bit - 6 bit.
2.3 What information is in the book/title record?	2.3 MARC data plus CCR nos., internal pointers.	2.3 User's choice - any subset of LC MARC.
2.4 What are the access points to the book/title file?	2.	
a) author	2.4 a) Yes.	2.4 a) Yes - all authors.
b) title	b) Yes.	b) Yes.
c) ISBN	c) Yes. ISSN	c) Yes - if desired.
d) book number	d) Yes. Vendor no.	d) Yes.
e) search key, describe	e) No.	e) Any MARC field, client's choice at time of loading file. Also key word.
f) subjects	f) Yes.	f) Yes - all subjects
g) call number	g) Yes.	g) Yes.

BCUC FEATURE COMPARISON -- CIRCULATION

CRITERIA	WLN	UTLAS
3.0 Borrower Information		
3.1 What is the borrower card identification? bar code label on student id card, etc.	3.1 Always bar code or OCR.	3.1 Bar code is student ID. Could be any number (i.e. social insurance number).
3.2 What is the patron or borrower record format?		
a) fixed or variable	3.2 a)	3.2 a) Variable.
b) max &/or average characters	b)	b)
3.3 What information is in the borrower file?	3.3 Patron name and address, four statistical fields (patron class, academic major, etc.) two address fields, lists of book charges, on hold, lost, blocks, books on reserve.	3.3 Client's choice at time of set-up.
3.4 How is the borrower file accessed?		
a) patron name	3.4 a) Yes.	3.4 a) Yes.
b) patron ID number	b) Yes.	b) Yes.
4.0 Printed Output		
4.1 Does the system generate a date due slip.	4.1 No - there are printers - slave that print charging screen.	4.1 Yes.
4.2 Are overdue notices generated? How many: 1st, 2nd, 3rd?	4.2 Yes - 1, 2, 3 - bill	4.2 Client's choice - semiautomated
4.3 Recall notices?	4.3 Yes.	4.3 Yes - semiautomated.
4.4 Fines?	4.4 Planned - data mailer will include all fines and outstanding charges by January 1980.	4.4 Yes - semiautomated.
4.5 Hold availability?	4.5 Yes.	4.5 Yes - semiautomated.
4.6 Management reports?		
a) circulation statistics	4.6 a) By branch, by collection, by LC call no., by class of patron, by zip code.	4.6 a) Planned.
b) weeding lists	b) Dusty book report.	b) Planned.
c) more copies needed	c) Purchase alert, parameter based.	c) Planned.
d) other - describe	d) ?	d) Planned.

BCUC FEATURE COMPARISON -- CIRCULATION

CRITERIA	WLN	UTLAS
5.0 Software		
5.1 What is the programming language?	5.1 MIS (dialect of MUMPS)	5.1 Assembler
5.2 Who maintains the software?	5.2 DataPhase (on-line interface with remote systems for maintenance).	5.2 UTLAS and Data General.
5.3 How many programs are in the system?	5.3 Over 900.	5.3 Not available.
5.4 What percent of the program have been in operation for more than six months?	5.4 95%	5.4 Not available.
5.5 a) How does the circulation system interface with the mainframe system?	5.5 a) Tape transfer, or can develop an rje interface.	5.5 a) By tape from mainframe.
b) Is there a tape transfer of data?	b) Yes.	b) Yes - from mainframe
c) Is there or when will there be a computer to computer transfer of data?	c) Eventually	c) Planned for future implementation.
d) What is the protocal for this?	d)	d) Not defined.
e) Will other systems (other circ systems) be able to emulate this transfer?	e)	e) Currently other circulation systems are tape fed from CATSS. Other possibilities are open for the future.
5.6 What are the future development plans?	5.6 Acquistions and material books are under development.	5.6 Data from mini to mainframe.
5.7 Will other functions be loaded onto this system, such as acquisitions, serials check-in, public access?	5.7 Acquisitions and material bookings.	5.7 Serials check-in and acquistions (partial, i.e. local information and reports) - public access now available.
6.0 Hardware		
6.1 Describe the hardware configuration and the file capacity as you have designed it.	6.1 DG family of Nova and Eciplses - any cpu's in this line.	6.1 Data General S200 or S250, maximum 2 M bytes of memory, 8 double capacity disk drive (1.6 billion characters), 4 tape drives, support for up to 64 lines.

BCUC FEATURE COMPARISON -- CIRCULATION

CRITERIA	WLN	UTLAS
6.2 Terminals - are there different terminals, for specific usage, e.g. check-out terminals, staff use terminals?	6.2 Same terminals - except circ terminals have an OCR wand attached - reference and inquiry terminals do not.	6.2 Yes - transaction terminal for charge, discharge - wand and bar card reader; CRT for interactive inquiry; and printing terminal.
7.0 User Instruction		
7.1 Is there user documentation?	7.1 Yes.	7.1 Some - transaction terminal has lighted instruction panels. Still in development - partially available.
7.2 How is it organized?	7.2 User's Manual with step-by-step instructions plus prompts plus comprehensive system manual.	7.2 Inquiry, data maintenance, transactions, statistical, administrative. Still in development - partially available.
7.3 How is it updated?	7.3 Monthly updates to the user's manual.	7.3
7.4 How frequently is it updated?	7.4	7.4

BCUC FEATURE COMPARISON -- ACQUISITIONS

CRITERIA	WLN	UTLAS
1.0 General Information		
1.1 How long has the acquisition system been operational?	1.1 June 1978.	1.1 The acquisition system is presently under development. Expected date of availability is phasing through 1980-81.
1.2 How many libraries are using the system currently?	1.2 As of August 1979, eight libraries are in full production, two libraries have recently been trained.	1.2 Not applicable. Two libraries using the on-order facility (2 years).
1.3 How long has each used the system?	1.3 WSU - 14 months, Whitworth - 14 months, WSL - 14 months, Timberland Regional - 8 months, Pacific Lutheran - 3 months, Ganzaga - 3 months, Spokane Falls Community College - 1 month, Boise State University - 1 month, University of Alaska - training complete, University of Puget Sound - Law School - training complete.	1.3 Not applicable.
1.4 Types of materials handled? a) monographs b) microfilms c) films d) phonorecords e) maps f) kits g) subscriptions h) standing orders, and approvals i) gifts and exchanges j) added copies	1.4 There are no limitations on the kinds of materials handled. A record type field defines the type of material. In ordering non-bibliographic items, the order record need not be linked to the bibliographic file.	1.4 a) Planned. b) Planned. c) Planned. d) Planned. e) Planned. f) Planned. g) Planned. h) Planned. i) Planned. j) Planned.
1.5 Is the LC MARC file and/or other resource files used for order input and verification?	1.5 The WLN bibliographic file is used for order input and verification.	1.5 It is planned that the CATSS source file will be used for order verification.
2.0 Files		
2.1 Describe the files and their interrelationship.	2.1 In-process and standing order file are linked to the bibliographic file. Vendor information carried in a file of library names and addresses. (Present access by ID number only.) Account status is posted nightly.	2.1 See plan enclosed.

BCUC FEATURE COMPARISON -- ACQUISITIONS
(CONT'D)

CRITERIA	WLN	UTLAS
2.2 What information is in the in-process record? a) author b) title c) publisher d) supplier e) order date f) price g) prepayment indication h) type of material i) rush indicator j) po number k) fund	2.2 In-process record has all data items listed. There is basic bibliographic data plus information necessary to order, claim, and receive the item. The encumberance field is separate from the list price field, each is entered independently.	2.2 a-k) planned to be in the customer order or in process record.
2.3 How are the in-process files accessed?	2.3 Same access as the bibliographic system. Direct access to the in-process file is by po number only.	2.3 The plan is to access by ISBN, ISSN, LCCN, PO number, browsable author and title, publisher, vendor, order number.
2.4 What information does the vendor file have?	2.4 Vendor name and address. Separate order and pay addresses may be maintained.	2.4 The plan is that the vendor file will have: name and address, subdivision or distributor, ISBN/ISSN prefix for publisher, type of vendor, disposition of vendor, billing agent, remarks, and type of publisher.
2.5 Who keeps the vendor file current?	2.5 WSL Acquisitions Department. There are 9,000 vendors in the file now. Also, a vendor name and address can be input with an individual order.	2.5 Will be contracted out - to be maintained centrally.
3.0 System Features		
3.1 Does the user in-process file have cancellations? For how long? With reasons for cancellations?	3.1 Records stay on-line until the user tells the system to write the records to a history file. Even then the system waits 45 days after the "clear" command (i.e., write to history), and then will copy off record only if there has been no update activity on the record in the 45 days.	3.1 The plan is to have cancellations on a history file.
3.2 a) How are foreign currency conversion rates updated?	3.2 a) A design for foreign currency conversions exists, but it is not presently implemented.	3.2 a) UTLAS plans to update.
b) How frequently?	b)	b) Plans to update as needed - some more frequently than others (daily)

BCUC FEATURE COMPARISON -- ACQUISITIONS
(CONT'D)

CRITERIA	WLN	UTLAS
3.3 Does the system handle prepayments?	3.3 Yes. A record may be marked to indicate cate prepayment, but no output is generated.	3.3 Yes -- it is planned.
3.4 Claims		
a) Does the system claim on a given schedule?	3.4 a) User can set claim interval in profile, and can overrride with individual orders.	3.4 a) Yes -- it is planned.
b) What is it?	b) User defined.	b) It is planned to be set by each user.
c) Can it be adjusted?	c) Yes.	c) Yes, it is planned.
d) Are claims reviewed before mailing?	d) Yes, they are mailed to the user for review, if desired.	d)
3.5 Fund Accounting		
a) Does the system provide for fund accounting?	3.5 a) Yes, there is both an account number for application of funds and an account code for fund source.	3.5 a) The plan specifies fund accounting.
b) How many subfunds or levels of funds are provided?	b) There is no hierarchy of funds and subfunds. In the future funds will be able to be grouped	b) As many as required.
c) What information does the funding accounting record contain?	c) Account number, account code, description of the account, allocation amount, outstanding encumbrances, disbursements, free balance.	c) See design spec.
d) Does the system encumber?	d) Yes, but only when information put in specific field. Records can be created without encumbering funds.	d) Yes, it is planned.
e) Can totals be carried over from year to year?	e) Yes.	e) The plan will be to carry over funds.
f) Can the user overencumber by a designated amount?	f) The funds can be overencumbered by any amount. A report is generated when overencumbering first occurs.	f) Yes.
g) What kind of fund reports are available? What is the frequency?	g) Daily - detail report of every accounting action and summary report of accounting transactions. Weekly - summary of fund account status. Monthly- detailed encumbrance report.	g) The plan stipulates fund expenditure reports. The frequency and exact content are as yet undetermined.

BCUC FEATURE COMPARISON -- ACQUISITIONS

CRITERIA	WLN	UTLAS
3.6 Receiving		
a) How are partial shipments handled?	3.6 a) Payments are initiated for only those items received; other orders remain open.	3.6 a) Partial shipments can be handled.
b) How are returns and requests for credits handled?	b) Create an accounting segment with a credit status.	b) See design specs.
c) Are damaged books or wrong books automatically reordered?	c) No.	c) Returned or reordered. Controls are planned.
3.7 Purchase Orders		
a) Are purchase orders generated on a regular schedule or on demand?	3.7 a) Presently generated twice a week. In the future when the volume builds, they will be generated nightly.	3.7 a) On-demand.
b) Are orders from different libraries to the same supplier combined?	b) No.	b) No.
c) What special order features are available?	c) Special messages can be placed on the order, e.g., order on approval, quote only, information request, membership account. Also, flags exist to generate messages - rush, intentional duplicate, no cataloging. For the future it is planned that cataloging products can be ordered automatically at the time of receipt of the material. For approval materials, receipts can be generated without order generation.	c)
3.8 Are tapes from or to the supplier read into the system or generated by the system?	3.8 Not at present.	3.8 Yes.
4.0 What kind of management reports are generated?		
4.1 Vendor performance	4.1 No report at present.	4.1 Planned.
4.2 Average price for classes of books/materials	4.2 No report at present.	4.2 Planned.
4.3 Fund status	4.3 Yes - on fiche or paper.	4.3 Planned.

BCUC FEATURE COMPARISON -- ACQUISITIONS

CRITERIA	WLN	UTLAS
4.4 In-process status	4.4 On-line inquiry provides this information on demand or a report can be produced.	4.4 Planned.
4.5 Outstanding orders	4.5 No report at present.	4.5 Planned.
5.0 Printed Products		
5.1 Purchase orders	5.1 Yes.	5.1 Planned.
5.2 Claims	5.2 Yes.	5.2 Planned.
5.3 Cancellations	5.3 No notification generated to the supplier.	5.3 Planned.
5.4 Notification of receipt of items ordered by specific persons	5.4 Yes, by putting a note in the record for manual follow-up.	5.4 Planned.
5.5 Routing slips	5.5 Yes, by putting a note in the record for manual follow-up.	5.5 Planned.
5.6 Vendor reports on item status	5.6 Yes, by putting a note in the record for manual follow-up.	5.6 Planned.
6.0 Linkage to other subsystems		
6.1 What is the link to the cataloging subsystem?	6.1 The bibliographic file and access methods are central to both the cataloging and acquisition subsystems.	6.1 The resource files from the CATSS system are planned to be used for pre-order searching.
6.2 What is the link to the authority control subsystem?	6.2 The link is not direct, but as part of the link with the cataloging system.	6.2 The link will be indirect through the bibliographic file.
6.3 What is the link to the serials control subsystem?	6.3 Some serials functions are performed by the acquisitions subsystem. There is no separate serials subsystem.	6.3 The serials system is planned as a subset of the acquisition system.
6.4 What is the link to the public access subsystem?	6.4 There is no separate public access system. The same inquiry/search methods are used for acquisition and cataloging.	6.4 Will access through regular access points.

B-64

University of Toronto

Library Automation Systems

STANDARD PRODUCT DESCRIPTION, NO. 9

ON ORDER LISTS

UTLAS

August 1979

130 St George Street Room 8003 Toronto Ontario Canada M5S 1A5 Telephone 416/978 7171 Telex 065 24479
33 East Tupper Street Buffalo New York 14203 USA

General

On order lists are designed for libraries who wish to get printouts of data records which are on order as designated by the use of fixed field 032. The lists are alphabetized by agent for all of the records that have been filed or stored in a given week. Each entry contains a brief bibliographic description and the on order information contained in variable field 098.

Features

1. On order lists are arranged by agent and subarranged by title followed by main entry.
2. On order lists are printed on a weekly basis.
3. Tag 098, on order information is printed.
4. On order lists are currently available in English only.

Selection of Records for Printing of an On Order List

Any records filed or stored during the week that contain a fixed field 32 equal to O or B or C and that contain a tag 098 $a will cause an entry to appear on an on order list.

Sequence and Page Layout

On order lists are arranged by agent (tag 098 $b) and subarranged by title (tag 245) and main entry (tag 1xx). Entries are printed on 8½" x 11" pages. Each page will have a heading and the cut-off date used to select the records that are printed on the lists. A new page will be started for each agent. Several complete entries for a single agent may appear on a page.

Contents of Each Entry

Each entry will contain the following data elements:

RSN	
Imprint	Tag 260 $b, $c
Title	Tag 245
Main Entry	Tag 1xx
ISBN	Tag 020 $a (optional)
On Order Information	Tag 098 $a, $b, $d, $g,$h, $i, $j, $l

Tag 098: On Order Information

Each entry will be filed according to the contents of 098 $b agent. There must be only one $b subfield for each tag 098. The following will be printed in the descriptive portion of each entry, preceded by the constant as indicated.

PRICE:	098 $d (list price)
DATE:	098 $g (order date)
BINDING:	098 $h (type of binding)
LOCATION:	098 $i (locations for ordered items)
COPIES:	098 $j (number of copies ordered)
FUND:	098 $l

Note: Tag 098 must have a $a present even if the content of $a is blank. If no $a is present the record will not appear in an on order list regardless of the contents of fixed field 32.

Tag 20: ISBN

A library may specify whether or not tag 20 $a - ISBN is to appear on the on order lists . If it is present it will be preceded by the constant 'ISBN:'

Fixed Field 032: Encoding Level

In order to designate the records for production of on order lists, fixed field 032 should be set to O (letter O). This indicates a new order and assumes no copies have been catalogued for the library. If the title has been catalogued and the order is for an added copy, fixed field 032 could be coded as B or C. This distinction will allow on order records to be included or excluded from cumulative products (e.g. COM catalogue) if a library uses fixed field 032 values in the selection criteria for these products.

During online processing, if fixed field is set to O, an O will appear following the WHO code in the hit list.

Sample

The following is a sample page of an on order list.

MISSISSAUGA PUBLIC LIBRARY
AGENT: bvb

AUG 24 1979

B-68

ORDER NO 05597945 Droll stories collected in the monasteries of Touraine and given to the light by Honoré de Balzac /
Balzac, Honoré de
Paul Elek Books, 1958
PRICE 9.95 DATE 790824 BINDING hc LOCATION 2022
COPIES 1 FUND 82

ORDER NO 05578731 Handbook of tropical aquarium fishes /
Axelrod, Herbert R.
T.F.H. Publications, 1969.
PRICE 4.95 DATE 790824 BINDING pb LOCATION 6011
COPIES 1 FUND 78

ORDER NO 05643308 Number power 1 /
Howett, Jerry.
Regnery, [1976] ISBN 0809280116
PRICE 2.25 DATE 790824 BINDING pb LOCATION 2011
COPIES 2 FUND 82

ORDER NO 05562888 Solaris
Lem, Stanislaw.
Walker, 1970 ISBN 0802755267
PRICE 1.75 DATE 790824 BINDING plb LOCATION 4022
COPIES 1 FUND 79

```
ORDER NO  05580421  The American dog book /
      Unkelbach, Kurt
      Dutton,  1976   ISBN  0876902018
      PRICE  17.25  DATE  790824  BINDING  hc  LOCATION
      13011 COPIES  1 FUND  76


ORDER NO  05568640  Birds of prey
      Everett, Michael.
      Putnam,  1976.  ISBN  0399116753 :
      PRICE:  12.95  DATE:  790824  BINDING  hc  LOCATION:
      14011 COPIES  1 FUND: 75


ORDER NO  05521501  An introduction to Shakespeare /
      Chute, Marchette.
      E.P. Dutton,  1951.  ISBN  0525325875 :
      PRICE  7.50  DATE:  790820  BINDING:  hc  LOCATION: 6031
      COPIES  1 FUND: 78


ORDER NO  05548267  It's not the end of the world --
      Blume, Judy
      Bradbury Press,  1972   ISBN  0878880429
      PRICE  6.95  DATE  790823  BINDING  hc  LOCATION  7032
      COPIES  1 FUND: 81


ORDER NO:  05643288  Letter to a king :
      Poma de Ayala, Felipe Huaman, fl. 1613
      Dutton,  c1978.  ISBN  0525144803 :
      PRICE  10.00  DATE  790824  BINDING  hc  LOCATION: 2011
      FUND  82


ORDER NO:  05502243  Midget motoring and karting /
      McFarland, Kenton D.
      Dutton,  1961  ISBN:  0525348808 :
      PRICE:  7.95  DATE:  790821  BINDING  hc  LOCATION: 4,6,7,
      9031 COPIES: 4 FUND: 81


ORDER NO:  05566605  The murder on the links /
      Christie, Agatha.
      Bodley Head,  1960,c1923.  ISBN  0370006887 :
      PRICE:  2.34  DATE:  790820  BINDING:  hc  LOCATION  2022
      FUND: 82


ORDER NO:  05553567  My Lord John /
      Heyer, Georgette.
      Bodley Head,  1975.  ISBN:  0370105923 :
      PRICE  8.95  DATE  790822  BINDING  hc  LOCATION  6022
      COPIES: 1 FUND: 78
```

ORDER NO: 05587584 A dictionary of slang and unconventional English :
Partridge, Eric.
Macmillan, 1970
PRICE: 18.50 DATE: 790801 BINDING: hc LOCATION: msv
COPIES: 1 FUND: 75

ORDER NO: 05604192 How to attract, house and feed birds /
Schutz, Walter E.
Collier Books, 1974, c1970.
PRICE: 3.95 DATE: 790824 BINDING: pap LOCATION: 14011 COPIES: 1 FUND: 75

ORDER NO: 05642693 How to win at duplicate bridge
Miles, Marshall
Collier Books, 1962
PRICE: 1.25 DATE: 790820 BINDING: pb LOCATION: 2011
COPIES: 1 FUND: 82

ORDER NO: 05524433 Island in the sun :
Waugh, Alec
Cassell, 1956
PRICE: 2.50 DATE: 790824 BINDING: hc LOCATION: 6022
COPIES: 1 FUND: 78

ORDER NO: 05580421 The American dog book /
Unkelbach, Kurt.
Dutton, 1976 ISBN: 0876902018 :
PRICE: 17.25 DATE: 790824 BINDING: hc LOCATION:
13011 COPIES: 1 FUND: 76

ORDER NO: 05568640 Birds of prey
Everett, Michael.
Putnam, 1976 ISBN: 0399116753 :
PRICE: 12.95 DATE: 790824 BINDING: hc LOCATION:
14011 COPIES: 1 FUND: 75

ORDER NO: 05521501 An introduction to Shakespeare /
Chute, Marchette.
E.P. Dutton, 1951 ISBN: 0525325875
PRICE: 7.50 DATE: 790820 BINDING: hc LOCATION: 6031
COPIES: 1 FUND: 78

ORDER NO: 05548267 It's not the end of the world --
Blume, Judy.
Bradbury Press, 1972 ISBN: 0878880429
PRICE: 6.95 DATE: 790823 BINDING: hc LOCATION: 7032
COPIES: 1 FUND: 81

ORDER NO: 05643288 Letter to a king :
Poma de Ayala, Felipe Huamán, fl. 1613.
Dutton, c1978 ISBN: 0525144803
PRICE: 10.00 DATE: 790824 BINDING: hc LOCATION: 2011
FUND: 82

ORDER NO: 05502243 Midget motoring and karting /
McFarland, Kenton D.
Dutton, 1961 ISBN: 0525348808 :
PRICE: 7.95 DATE: 790821 BINDING: hc LOCATION: 4,6,7,
9031 COPIES: 4 FUND: 81

ORDER NO: 05566605 The murder on the links /
Christie, Agatha.
Bodley Head, 1960,c1923 ISBN: 0370006887 :
PRICE: 2.34 DATE: 790820 BINDING: hc LOCATION: 2022
FUND: 82

ORDER NO: 05553567 My Lord John /
Heyer, Georgette.
Bodley Head, 1975 ISBN: 0370105923 :
PRICE: 8.95 DATE: 790822 BINDING: hc LOCATION: 6022
COPIES: 1 FUND: 78

AUG 24 1979

MISSISSAUGA PUBLIC LIBRARY
AGENT cmc

B-70

ORDER NO 05587584 A dictionary of slang and unconventional English
Partridge, Eric
Macmillan, 1970
PRICE 18.50 DATE 790801 BINDING hc LOCATION msv
COPIES 1 FUND 75

ORDER NO 05604192 How to attract, house and feed birds /
Schutz, Walter E
Collier Books, 1974, c1970.
PRICE 3.95 DATE 790824 BINDING pap LOCATION
14011 COPIES 1 FUND 75

ORDER NO 05642693 How to win at duplicate bridge
Miles, Marshall
Collier Books, 1962
PRICE 1.25 DATE 790820 BINDING pb LOCATION 2011
COPIES 1 FUND 82

ORDER NO 05524433 Island in the sun :
Waugh, Alec
Cassell, 1956
PRICE 2.50 DATE 790824 BINDING hc LOCATION 6022
COPIES 1 FUND 78

University of Toronto

Library Automation Systems

STANDARD PRODUCT DESCRIPTION, NO. 11

NEW PUBLICATIONS AWARENESS LIST

(ISSN: 0709-8987)

UTLAS

September 1979

130 St George Street Room 8003 Toronto Ontario Canada M5S 1A5 Telephone 416/978 7171 Telex 065 24479
33 East Tupper Street Buffalo New York 14203 USA

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Appendix IV: Sample Pages

NEW PUBLICATIONS AWARENESS LIST

INTRODUCTION

UTLAS has developed a new service called the New Publications Awareness List which is designed to bring to the attention of library personnel, booksellers and researchers, new publications in their various fields. Currently, UTLAS receives MARC distribution tapes containing bibliographic records from the Library of Congress (LC), the National Library of Canada (NLC), Bibliothèque nationale du Québec (BNQ) and the National Library of Medicine (NLM). These national tape distribution services will form the basis of the UTLAS New Publications Awareness List.

Records with publication dates beginning with 1978 onwards are selected to produce the New Publications Awareness List. Each year on July 1 the first year of the select key will be dropped e.g. publications with year 1978 as the date of publication will not appear on the list after July 1, 1980.

Records in the list appear in LC classification order. A composite table to accommodate the classification schedules used by the above national agencies has been prepared in order to produce an integrated list of monographs and serials. (See Appendix I)

ADVANTAGES

The New Publications Awareness List offers the following advantages:

1. New publications appear in one integrated list.
2. Entries contain all the information required for the selection of both monographs and serials.
3. Multiple searches in numerous sources can now be done in one step.
4. The time spent on scanning literature for new publications can be reduced.
5. Grouping into subject categories it makes distribution to departments concerned very simple.
6. Eliminates the need for multiple subscriptions to some selection and searching tools.
7. Provides cataloguing information.

FREQUENCY

The New Publications Awareness List will be produced weekly and will be drawn from records that have been integrated from the national tape distribution services into the UTLAS data bases that week.

COVERAGE

The list includes both monographs and serials from the following MARC tapes:

1. LC - Books
2. LC - Serials

3. NLC - Books
4. BNQ - Books and Serials
5. NLM - Books and Serials

SELECTION OF DATA

1. After integration of records in the UTLAS database, these records are further selected by date of publication, using fixed field 1003. All records with date of publication 1978 and years consecutively following this date are selected.

2. These selected records are then sorted on tag 050 for LC source records, tag 055 for the National Library of Canada and Bibliothèque nationale du Québec source records and tag 060 for the National Library of Medicine source records. If there are multiple tag 050, 055 or 060 or multiple $'a's' within these tags, each occurrence is used as a sort key and the record printed under each key.

3. If tag 050, 055 or 060 does not satisfy the composite table the records appear in a section labelled "Miscellaneous". This section therefore, includes such call numbers as:

LAW	(eventually to be classified in the "K" group)
PAR	(partially catalogued which will be fully classified and catalogued eventually)
UNC	(unclassified)

Call numbers with "z" preceding them are listed below:

ZQS
ZQT
ZQU
ZQV
ZQW

ZQX
ZQY
ZQZ
Z preceding any number beginning with "W"

PAGE & RECORD LAYOUT

1. Each new classification letter category with its description in words is printed in upper case letters as a page header. (e.g. R MEDICINE)

2. On a new line, the next sub-group of classification letters with its description is printed in upper and lower case. (e.g. RC Internal Medicine)

3. On a new line tag 050, 055 or 060 (call number) is printed left justified and enclosed in black boxes followed by the subject desciption (if there is one) in upper and lower case within winged brackets. (e.g. RC454T6 Neurology and Psychiatry).

4. If the fixed field for language is other than ENG or FRE the language is printed in upper case letters to the immediate right of the subject description which is beside the call number. (See Appendix III for list of language codes)

5. The following tags are printed consecutively beginning on the line after the call number, 4 spaces to the left of the idention of the call number:

   1xx (main entry)
   240 (uniform title)
   245 (title statement)
   250 (edition statement)
   362 - I1 = 0 (dates of publications and volume designations - serials)
   260 (imprint)
   263 (projected publication date - CIP records) - this tag is preceded by the print constant PUB DATE:
   265 (source for acquisition/subscription address)
   300 (collation)

fixed field 1035 (frequency)

082 (Dewey no.) which is preceded by the print constant in upper case letters 'DEWEY:'

010 (LC card no.) which is preceded by the print constant 'LC:'

020 (ISBN, binding price) - only the print constant 'ISBN:' is printed for this tag

022 (ISSN) preceded by the print constant 'ISSN:'

310 (current frequency)

362 - I1 = 1 (dates of publications and volume designations - serials - unformatted style)

246 (varying forms of title)

247 (former title variation)

5xx (general and specific notes)

760 (main series entry)

762 (subseries entry)

765 (original language entry)

767 (translation entry)

770 (supplement/special issue entry)

772 (parent record information)

775 (additional forms available entry)

777 (issued with entry)

780 (preceding entry)

785 (succeeding entry)

787 (non-specific relationship entry)

222 (key title)

6. Beginning a new line, at the same indention as the main entry, tags 6xx are printed and numbered accordingly.

7. The RSN (Record Sequence Number - the UTLAS internal control number) is in parenthesis and printed right justified on the last line of the record. Preceding the RSN, is the code CIP which identifies records which have not yet been published. After the RSN is the code which represents the source file from which the record is taken. (LC, NLC, BNQ, NLM)

MISCELLANEOUS

1. Each entry is numbered to facilitate selectors and searchers in readily identifying each item of interest.

2. Print constants are supplied for certain fields. (See Appendix II)

3. If the record is French (as indicated in the fixed field area) French standard print constants are used.

4. Some items may appear more than once due to the following reasons:

   a. multiple call numbers in the record.
   b. more than one national agency distribution service carries the record.

FUTURE UPGRADES

1. The following MARC distribution services are planned to be added to the New Publications Awareness List

Library of Congress	-	Maps
Library of Congress	-	U.S. Government Printing Office Publications
U.K. MARC	-	Monographs and Serials

2. A separate service is planned from the LC Films MARC distribution service.

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APPENDIX I

INTEGRATED CLASSIFICATION TABLE

APPENDIX I

INTEGRATED CLASSIFICATION TABLE

LC	A		GENERAL WORKS
LC	AC		Collections. Series. Collected Works
LC	AC	1-800	Collections of Monographs, Essays, etc.
LC	AC	801-900	Inaugural and Program Dissertations
LC	AC	901-998	Pamphlet Collections
LC	AC	999	Scrapbooks
LC	AE		Encyclopedias - General
LC	AG		Dictionaries and Other General Reference Works
LC	AG	1-102	Dictionaries. Minor Encyclopedias
LC	AG	103-194	General Works, Pocketbooks, Receipts, etc
LC	AG	195-239	Questions and Answers
LC	AG	240-249	Wonders. Curiosities
LC	AG	250-304	Pictorial Works
LC	AG	305-499	Notes and Queries
LC	AG	500-551	Clipping Bureaus. Information Bureaus
LC	AI		Indexes - General
LC	AI	21	Indexes to Individual Newspapers
LC	AM		Museums - General. Collectors and Collecting - General
LC	AM	10-110	Museography. Individual Museums
LC	AM	111-199	Museology. Museum Methods, Technique, etc
LC	AM	200-501	Collectors and Collecting. Private Collections
LC	AN		Newspapers
LC	AP		Periodicals - General
LC	AP	101-199	Humorous Periodicals
LC	AP	200-230	Juvenile Periodicals
LC	AS		Academies and Learned Societies - General
LC	AS	2-4	International Associations, Congresses, Conferences, etc
LC	AY		Yearbooks. Almanacs. Directories
LC	AY	30-2001	Almanacs. Directories
LC	AZ		History of Scholarship and Learning
LC	AZ	999	Popular Errors, Delusions and Superstitions
LC	B		PHILOSOPHY. PSYCHOLOGY. RELIGION
LC	B	1-68	Philosophy - General
LC	B	69-9999	History and Systems
LC	BC		Logic
LC	BD		Speculative Philosophy
LC	BD	10-94	General Philosophical Works
LC	BD	95-142	Metaphysics
LC	BD	143-239	Epistemology. Theory of Knowledge
LC	BD	240-299	Methodology
LC	BD	300-492	Ontology
LC	BD	493-708	Cosmology
LC	BF		Psychology
LC	BF	173-179	Psychoanalysis
LC	BF	180-230	Experimental Psychology
LC	BF	231-310	Sensation
LC	BF	311-510	Cognition. Perception. Intelligence
LC	BF	511-607	Emotion
LC	BF	608-635	Will
LC	BF	636-659	Applied Psychology
LC	BF	660-697	Comparative Psychology. Motivation
LC	BF	698	Personality
LC	BF	699-711	Genetic Psychology
LC	BF	712-794	Developmental Psychology. Child Psychology
LC	BF	795-839	Temperament. Character
LC	BF	840-865	Physiognomy
LC	BF	866-888	Phrenology
LC	BF	889-907	Graphology
LC	BF	908-1000	The Hand. Palmistry

APPENDIX I
INTEGRATED CLASSIFICATION TABLE

LC	BF	1001-1404	Parapsychology
LC	BF	1405-1999	Occult Sciences
LC	BH		Aesthetics
LC	BJ		Ethics
LC	BJ	1188-1544	Religious Ethics
LC	BJ	1545-1800	Practical and Applied Ethics. Conduct of Life
LC	BJ	1801-2195	Social Usages. Etiquette
LC	BL		Religions. Mythology. Rationalism
LC	BL	175-299	Natural Theology
LC	BL	300-424	Mythology - General
LC	BL	425-499	Religious Doctrines - General
LC	BL	500-549	Eschatology
LC	BL	550-659	Worship. Cultus
LC	BL	660-2699	History and Principles of Particular Religions
LC	BL	2700-2790	Rationalism
LC	BM		Judaism
LC	BM	486-494	Dead Sea Scrolls
LC	BM	495-599	Sources of Jewish Religion. Rabbinical Literature
LC	BM	600-649	Dogmatic Judaism
LC	BM	650-899	Practical Judaism
LC	BM	900-990	Samaritans
LC	BP		Islam. Bahaism. Theosophy, etc.
LC	BP	100-299	Islam - Sacred Books, Theology, Practice of Islam, etc.
LC	BP	300-499	Bahaism
LC	BP	500-594	Theosophy
LC	BP	595-597	Anthroposophy
LC	BQ		Buddhism
LC	BQ	1001-1099	Buddhist Literature
LC	BQ	1100-4060	Tripitaka - Canonical Literature
LC	BQ	4061-4910	Doctrinal and Systematic Buddhism
LC	BQ	4911-7000	Practice of Buddhism. Forms of Worship
LC	BQ	7001-9800	Modifications, Schools, etc
LC	BR		Christianity
LC	BR	45-139	Christianity - Collections
LC	BR	140-1689	Christianity - Church History
LC	BR	1690-1725	Christianity - Biography
LC	BS		The Bible and Exegesis
LC	BT		Doctrinal Theology. Apologetics
LC	BV		Practical Theology
LC	BV	5-589	Worship - Public and Private
LC	BV	590-1999	Ecclesiastical Theology
LC	BV	2000-3749	Missions
LC	BV	3750-3999	Evangelism. Revivals
LC	BV	4000-4484	Pastoral Theology
LC	BV	4485-5099	Practical Religion. The Christian Life
LC	BX		Denominations and Sects
LC	BX	1-99	Church Unity. Ecumenical Movement
LC	BX	100-199	Eastern Churches. Oriental Churches
LC	BX	200-799	Orthodox Eastern Church
LC	BX	800-4799	Roman Catholic Church
LC	BX	4800-9999	Protestantism
LC	C		AUXILIARY SCIENCES OF HISTORY
LC	CB		History of Civilization and Culture - General
LC	CC		Archaeology - General
LC	CC	200-299	Bells. Campanology
LC	CC	300-899	Crosses
LC	CC	900-960	Tombs - General
LC	CD		Diplomatics. Archives. Seals
LC	CD	931-4279	Archives

APPENDIX I
INTEGRATED CLASSIFICATION TABLE

LC	CE		Technical Chronology Calendar
LC	CJ		Numismatics
LC	CJ	4801-5500	Tokens
LC	CJ	5501-6651	Medals and Medallions
LC	CN		Epigraphy. Inscriptions
LC	CR		Heraldry
LC	CR	191-1100	Public and Official Heraldry
LC	CR	1101-1178	Ecclesiastical and Sacred Heraldry
LC	CR	1179-3498	Family Heraldry
LC	CR	3499-4500	Titles of Honor, Rank, Precedence, etc
LC	CR	4501-6305	Chivalry and Knighthood
LC	CS		Genealogy
LC	CS	2300-3090	Personal and Family Names
LC	CT		Biography
LC	CT	93-209	Collections - General
LC	CT	210-3199	National Biography
LC	CT	3200-3830	Biography of Women
LC	D		HISTORY: GENERAL AND OLD WORLD
LC	D	1-50	History -General
LC	D	51-110	Ancient History
LC	D	111-203	Medieval History
LC	D	204-900	Modern History - World Wars I and II
LC	D	901-1075	Europe - General
LC	DA		Great Britain
LC	DA	20-699	England
LC	DA	700-749	Wales
LC	DA	750-899	Scotland
LC	DA	900-995	Ireland
LC	DB		Austria. Czechoslovakia. Hungary
LC	DC		France
LC	DD		Germany
LC	DE		Mediterranean Region. Greco-Roman World
LC	DF		Greece
LC	DG		Italy
LC	DH-DJ		Netherlands. Belgium. Luxemburg
LC	DK		Russia
LC	DK	401-444	Poland
LC	DK	445-465	Finland
LC	DL		Northern Europe. Scandinavia
LC	DP		Spain. Portugal
LC	DQ		Switzerland
LC	DR		Eastern Europe. Balkan Peninsula. Turkey
LC	DS		Asia
LC	DT		Africa
LC	DU		Oceania - South Seas
LC	DU	80-399	Australia
LC	DU	400-430	New Zealand
LC	DX		Gypsies
LC	E		HISTORY: AMERICA
LC	E	11-30	America - General
LC	E	31-50	North America
LC	E	51-100	Indians. Indians of North America
LC	E	101-183	Discovery of America and Early Explorations
LC	E	184-800	U.S. - General
LC	F		HISTORY: AMERICA
LC	F	1-1000	United States Local History
LC	F	1001-1200	British America Canada
LC	F	1201-1400	Mexico
LC	F	1401-1420	Latin America - General

APPENDIX I
INTEGRATED CLASSIFICATION TABLE

LC	F	1421-1600	Central America
LC	F	1601-2200	West Indies
LC	F	2201-2250	South America - General
LC	F	2251-2300	Colombia
LC	F	2301-2350	Venezuela
LC	F	2351-2500	Guianas. Guyana. Surinam. French Guiana
LC	F	2501-2660	Brazil
LC	F	2661-2700	Paraguay
LC	F	2701-2800	Uruguay
LC	F	2801-3050	Argentina
LC	F	3051-3300	Chile
LC	F	3301-3400	Bolivia
LC	F	3401-3700	Peru
LC	F	3701-3799	Ecuador
NLC	FC		Canadian History
NLC	FC	1-259	History - General
NLC	FC	300-304	Discovery and Exploration to 1603
NLC	FC	305-399	French Regime, 1603-1760/63
NLC	FC	400-499	The British Colonial Period, 1760/63-1867
NLC	FC	500-2000	Canada, the Nation, 1867-
NLC	FC	2001-2020	Canadian Local History - Atlantic Provinces
NLC	FC	2021-2150	Canadian Local History - Maritime Provinces
NLC	FC	2151-2300	Canadian Local History - Newfoundland
NLC	FC	2301-2450	Canadian Local History - Nova Scotia
NLC	FC	2451-2600	Canadian Local History - New Brunswick
NLC	FC	2601-2750	Canadian Local History - Prince Edward Island
NLC	FC	2751-2770	Canadian Local History - St. Lawrence River - Great Lakes Basin
NLC	FC	2771-2780	Canadian Local History - Ottawa River and Valley
NLC	FC	2781-2900	Canadian Local History - National Capital Region
NLC	FC	2901-3050	Canadian Local History - Quebec
NLC	FC	3051-3200	Canadian Local History - Ontario
NLC	FC	3201-3230	Canadian Local History - Canadian Northwest
NLC	FC	3231-3350	Canadian Local History - Prairie Provinces
NLC	FC	3351-3500	Canadian Local History - Manitoba
NLC	FC	3501-3650	Canadian Local History - Saskatchewan
NLC	FC	3651-3800	Canadian Local History - Alberta
NLC	FC	3801-3950	Canadian Local History - British Columbia
NLC	FC	3951-4000	Canadian Local History - Canadian North
NLC	FC	4001-4150	Canadian Local History - Yukon
NLC	FC	4151-4200	Canadian Local History - Northwest Territories
LC	G		GEOGRAPHY. ANTHROPOLOGY. RECREATION
LC	G	149-574	Voyages and Travels - General
LC	G	575-1000	Polar Regions
LC	G	1001-3159	Atlases
LC	G	3160-9980	Maps
LC	GA		Mathematical Geography. Cartography
LC	GB		Physical Geography
LC	GB	400-650	Geomorphology
LC	GB	651-2598	Water. Hydrology
LC	GC		Oceanography
LC	GC	101-200	Seawater
LC	GC	201-379	Dynamics of the Sea
LC	GC	380-1014	Marine Sediments
LC	GC	1015-1079	Marine Resources
LC	GC	1080-1572	Marine Pollution
LC	GF		Human Ecology. Anthropogeography
LC	GN		Anthropology
LC	GN	51-220	Physical Anthropology. Somatology
LC	GN	221-306	Physiological and Psychological Anthropology

APPENDIX I
INTEGRATED CLASSIFICATION TABLE

LC	GN	307-699	Ethnology and Ethnography
LC	GN	700-875	Prehistoric Archaeology
LC	GR		Folklore
LC	GR	440-950	Folklore Relating to Special Subjects
LC	GT		Manners and Customs - General
LC	GT	170-499	Houses. Dwellings
LC	GT	500-2399	Dress. Costume. Fashion
LC	GT	2400-5319	Customs Relative to Private and Public Life
LC	GT	5320-6720	Customs Relative to Special Classes by Birth, Occupation, etc.
LC	GV		Recreation
LC	GV	191-200	Outdoor Life. Outdoor Recreation
LC	GV	201-560	Physical Training
LC	GV	561-1199	Sports
LC	GV	1200-1579	Games and Amusements
LC	GV	1580-1799	Dancing
LC	GV	1800-1860	Circuses, Carnivals, etc.
LC	H		SOCIAL SCIENCES
LC	H	1-999	Social Sciences - General
LC	HA		Statistics
LC	HB		Economics
LC	HB	1-847	Economic Theory
LC	HB	848-878	Population
LC	HB	879-3710	Demography. Vital Statistics
LC	HB	3711-3840	Crises. Business Cycles
LC	HC		Economic History and Conditions. National Production
LC	HD		Land. Agriculture. Industry
LC	HD	1-100	Production. Industrial Management
LC	HD	101-1400	Land
LC	HD	1401-2320	Agricultural Economics
LC	HD	2321-2708	Industry - General
LC	HD	2709-2950	Industry - Corporations. Trusts. Cartels
LC	HD	2951-3610	Industry - Industrial Cooperation
LC	HD	3611-4800	Industry - The State and Industrial Organization
LC	HD	4801-8999	Industry - Labor
LC	HD	9000-9999	Industry - Special Industries and Trades
LC	HE		Transportation and Communication
LC	HE	331-380	Traffic Engineering. Roads and Highways
LC	HE	381-1000	Water Transportation
LC	HE	1001-5600	Rail Transportation
LC	HE	5601-5999	Automotive Transportation
LC	HE	6000-7600	Postal Service. Stamp Collecting
LC	HE	7601-8688	Telecommunication. Telegraph
LC	HE	8689-8700	Radio and Television
LC	HE	8701-9760	Telephone
LC	HE	9761-9900	Air Transportation
LC	HF		Commerce
LC	HF	294-1700	Boards of Trade. Chambers of Commerce
LC	HF	1701-5000	Tariff Policy
LC	HF	5001-5548	Business - General. Business Administration
LC	HF	5549-5600	Personnel Management
LC	HF	5601-5800	Accounting
LC	HF	5801-6191	Advertising
LC	HG		Finance
LC	HG	201-1500	Money
LC	HG	1501-3700	Banking
LC	HG	3701-3809	Credit
LC	HG	3810-4000	Foreign Exchange
LC	HG	4001-4500	Corporation Finance
LC	HG	4501-8010	Stocks. Investment. Speculation

APPENDIX I
INTEGRATED CLASSIFICATION TABLE

LC	HG	8011-9970	Insurance
LC	HJ		Public Finance
LC	HJ	2005-2239	Income and Expenditure. The Budget
LC	HJ	2240-6040	Revenue. Taxation
LC	HJ	6041-8002	Customs. Tariff
LC	HJ	8003-8999	Public Credit. Debts. Loans
LC	HJ	9000-9700	Local Finance
LC	HJ	9701-9995	Public Accounting
LC	HM		Sociology
LC	HM	1-250	Sociology - General and Theoretical
LC	HM	251-291	Social Psychology
LC	HN		Social History. Social Problems. Social Reform
LC	HN	30-39	The Church and Social Problems
LC	HQ		Social Groups
LC	HQ	12-449	Sexual Life
LC	HQ	450-502	Erotica
LC	HQ	503-1100	The Family. Marriage
LC	HQ	1101-2030	Woman. Feminism. Women's Clubs
LC	HS		Societies: Secret, Benevolent, etc. Clubs
LC	HT		Communities. Classes. Races
LC	HT	101-389	Urban Sociology. Cities and Towns
LC	HT	390-400	Regional Planning
LC	HT	401-600	Rural Sociology
LC	HT	601-1500	Social Classes
LC	HT	1501-1595	Races
LC	HV		Social Pathology. Social and Public Welfare. Criminology
LC	HV	40-696	Charities
LC	HV	697-5000	Protection, Assistance, and Relief
LC	HV	5001-5724	Alcoholism. Intemperance. Temperance Reform
LC	HV	5725-5799	Tobacco Habit
LC	HV	5800-6000	Drug Habits. Drug Abuse
LC	HV	6001-9920	Criminology - Crimes and Offences. Penology
LC	HX		Socialism. Communism. Anarchism
LC	HX	806-811	Utopias
LC	J		POLITICAL SCIENCE
LC	J		Official Documents
LC	J	1-79	Official Gazettes
LC	J	80-85	U.S. - Presidents' Messages and Other Executive Documents
LC	J	86-99	U.S. - State Documents
LC	J	100-981	Other Countries
LC	JA		Collections and General Works
LC	JC		Political Theory. Theory of the State
LC	JC	311-324	Nationalism. Minorities. Geopolitics
LC	JC	325-344	Nature, Entity, Concept of the State
LC	JC	345-347	Symbolism, Emblems of the State: Arms, Flag, Seal, etc.
LC	JC	348-500	Forms of the State
LC	JC	501-628	Purpose, Functions and Relations of the State - Individual Rights. Liberty
LC	JF		Constitutional History and Administration
LC	JF	1-200	General Works. Comparative Works
LC	JF	201-799	Organs and Function of Government
LC	JF	800-1320	Political Rights and Guaranties
LC	JF	1321-2112	Government. Administration. Civil Service. Political Parties
LC	JK		Constitutional History and Administration - United States
LC	JL		Constitutional History and Administration - British America, Latin America
LC	JN		Constitutional History and Administration - Europe
LC	JQ		Constitutional History and Administration - Asia, Africa, Australia, Oceania
LC	JS		Local Government
LC	JV		Colonies and Colonization. Emigration and Immigration
LC	JX		International Law. International Relations

APPENDIX I
INTEGRATED CLASSIFICATION TABLE

LC	JX	63-1304	Collections. Documents. Cases
LC	JX	1305-1624	International Relations. Foreign Relations
LC	JX	1625-1900	Diplomacy. The Diplomatic Service
LC	JX	1901-2000	International Arbitration. World Peace
LC	JX	2001-5810	International Law - Treatises and Monographs
LC	K		LAW
LC	KD		Law of England and Wales
LC	KDC		Law of Scotland
LC	KDE		Law of Northern Ireland
LC	KDG		Law of Isle of Man and Channel Islands
LC	KDK		Law of Ireland - Eire
NLC	KE		Law of Canada - Provinces and Territories
LC	KF		Law of the United States
LC	L		EDUCATION
LC	L	1-999	Education - General
LC	LA		History of Education
LC	LB		Theory and Practice of Education
LC	LB	51-1024	Systems of Individual Educators and Writers
LC	LB	1025-1050	Teaching - Principles and Practice
LC	LB	1051-1100	Educational Psychology
LC	LB	1101-1139	Child Study. Psychical Development
LC	LB	1140	Preschool Education
LC	LB	1141-1500	Kindergarten
LC	LB	1501-1554	Primary Education
LC	LB	1555-1602	Elementary or Public School Education
LC	LB	1603-1704	Secondary Education. High Schools
LC	LB	1705-2299	Education and Training of Teachers
LC	LB	2300-2800	Higher Education
LC	LB	2801-3200	School Administration and Organization
LC	LB	3201-3400	School Architecture and Equipment
LC	LB	3400-3524	School Hygiene
LC	LB	3525-3640	Special Days. School Life. Student Customs
LC	LC		Special Aspects of Education
LC	LC	8-64	Forms of Education
LC	LC	65-250	Social Aspects of Education
LC	LC	251-1000	Moral and Religious Education
LC	LC	1001-1389	Types of Education
LC	LC	1390-5200	Education of Special Classes of Persons
LC	LC	5201-6691	Adult Education. Education Extension
LC	LD		Individual Institutions: Universities, Colleges, etc.
LC	LD		Individual Institutions: Universities, etc. - United States
LC	LE		Individual Institutions: Universities, etc. - America, except U.S.
NLC	LE	3-5	Individual Institutions: Universities, etc. - Canada
NLC	LE	7-9999	Individual Institutions: Universities, etc. - America, except U.S. and Canada
LC	LF		Individual Institutions: Universities, etc. - Europe
LC	LG		Individual Institutions: Universities, etc. - Asia, Africa, Oceania
LC	LH		College and School Magazines and Papers
LC	LJ		Student Fraternities and Societies, U.S.
LC	LT		Textbooks
LC	M		MUSIC AND BOOKS ON MUSIC
LC	M	5-1494	Instrumental Music
LC	M	1495-2199	Vocal Music
LC	ML		Literature of Music
LC	ML	48-110	Librettos
LC	ML	111-158	Bibliography
LC	ML	159-3799	History and Criticism
LC	ML	3800-3929	Philosophy and Physics of Music
LC	ML	3930	Juvenile Literature
LC	MT		Music Instruction and Study

APPENDIX I
INTEGRATED CLASSIFICATION TABLE

LC	MT	40-67	Composition
LC	MT	68-69	Improvisation
LC	MT	70-89	Orchestra and Orchestration. Conducting, etc
LC	MT	90-169	Analytical Guides, etc
LC	MT	170-819	Instrumental Techniques
LC	MT	820-954	Singing and Voice Culture
LC	MT	955-960	Production of Operas. Music in Theatres
LC	N		FINE ARTS
LC	N	1-999	Visual Arts - General
LC	N	400-4389	Art Museums, Galleries, etc
LC	N	4390-5197	Exhibitions
LC	N	5198-5299	Private Collections and Collectors
LC	N	5300-7429	History of Art
LC	N	7430-7474	Technique, Composition, Style, etc
LC	N	7475-7574	Art Criticism
LC	N	7575-7789	Portraits
LC	N	7790-8554	Religious Art
LC	N	8555-8599	Examination and Conservation of Works of Art
LC	N	8600-8699	Economics of Art
LC	N	8700-9165	Art and the State. Public Art
LC	NA		Architecture
LC	NA	190-2698	History. Historical Monuments
LC	NA	2699-2834	Architectural Design and Drawing
LC	NA	2835-4099	Architectural Details, Motives, Decoration, etc.
LC	NA	4100-8999	Special Classes of Buildings
LC	NA	9000-9425	Aesthetics of Cities. City Planning and Beautification
LC	NB		Sculpture
LC	NC		Drawing. Design. Illustration
LC	NC	997-1299	Commercial Art. Advertising Art
LC	NC	1300-1799	Caricature. Pictorial Humor and Satire
LC	NC	1800-1855	Posters
LC	ND		Painting
LC	ND	1290-1699	Special Subjects
LC	ND	1700-2549	Watercolor Painting
LC	ND	2550-2889	Mural Painting
LC	ND	2890-3416	Illuminating or Manuscripts and Books
LC	NE		Print Media
LC	NE	1-9	Printmaking and Engraving
LC	NE	1000-1399	Wood Engraving. Wood Cuts. Xylography
LC	NE	1400-1939	Metal Engraving. Copper, Steel, etc.
LC	NE	1940-2235	Etching and Aquatint
LC	NE	2236-2249	Serigraphy
LC	NE	2250-2799	Lithography
LC	NE	2800-2890	Printing of Engravings
LC	NK		Decorative Arts. Applied Arts. Decoration and Ornament
LC	NK	1135-1699	Arts and Crafts Movement
LC	NK	1700-3599	Interior Decoration. House Decoration
LC	NK	3600-9955	Other Arts and Art Industries
LC	NX		Arts in General
LC	NX	654-699	Religious Arts
LC	NX	700-797	Patronage of the Arts
LC	NX	798-820	Special Arts Centers
LC	P		LANGUAGE AND LITERATURE
LC	P	1-86	Philology and Linguistics - General
LC	P	87-100	Communication. Mass Media
LC	P	101-500	Language - General
LC	P	501-900	Indo-European Philology
LC	P	901-1081	Ancient or Medieval Asian and European Languages
LC	PA		Classical Languages and Literature

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LC	PA	227-2000	Greek Philology and Language
LC	PA	2000-3050	Latin Philology and Language
LC	PA	3051-4999	Greek Literature - Ancient to 600 A.D.
LC	PA	5000-6000	Greek Literature - Byzantine and Modern
LC	PA	6001-8000	Latin Literature - Ancient Roman
LC	PA	8001-8595	Latin Literature - Medieval and Modern
LC	PB		Modern European Languages
LC	PB	1-1200	Modern European Languages - General Works
LC	PB	1201-1500	Celtic Languages and Literature - Irish
LC	PB	1501-1800	Celtic Languages and Literature - Gaelic
LC	PB	1801-2000	Celtic Languages and Literature - Manx
LC	PB	2001-3029	Celtic Languages and Literature - Brythonic Group: Welsh, Cornish, Breton, Gallic
LC	PC		Romance Languages
LC	PC	601-1000	Romanian Language and Literature
LC	PC	1001-2000	Italian
LC	PC	2001-3800	French. Provencal
LC	PC	3801-4000	Catalan Language and Literature
LC	PC	4001-5000	Spanish
LC	PC	5001-5498	Portuguese
LC	PD		Germanic Languages
LC	PD	1001-1500	Old Germanic Dialects
LC	PD	1501-5929	Scandinavian. North Germanic
LC	PE		English
LC	PF		West Germanic
LC	PF	1-1000	Dutch
LC	PF	1001-1400	Flemish
LC	PF	1401-3000	Friesian Language and Literature
LC	PF	3001-5999	German
LC	PG		Slavic, Baltic, Albanian Languages and Literatures
LC	PG	1-8000	Slavic
LC	PG	8001-9500	Baltic
LC	PG	9501-9678	Albanian
LC	PH		Finno-Ugrian, Basque Languages and Literatures
LC	PH	101-1200	Finnish
LC	PH	1201-5000	Ugrian. Hungarian
LC	PH	5001-5490	Basque
LC	PJ		Oriental Languages and Literatures
LC	PJ	1-1000	Oriental Languages and Literatures - General Works
LC	PJ	1001-2300	Egyptian. Coptic
LC	PJ	2301-3000	Hamitic
LC	PJ	3001-9293	Semitic
LC	PK	1-8000	Indo-Iranian
LC	PK	8001-9000	Armenian
LC	PK	9001-9201	Caucasian. Georgian
LC	PL		Languages and Literature of Eastern Asia, Africa, Oceania
LC	PL	501-900	Japanese Language and Literature
LC	PL	901-1000	Korean Language and Literature
LC	PL	1001-5000	Chinese Language and Literature
LC	PL	5001-7999	Oceanic Languages and Literatures
LC	PL	8000-8844	African Languages and Literatures
LC	PM		American Indian Languages and Artificial Languages
LC	PM	101-8000	American Indian Languages
LC	PM	8001-9021	Artificial Languages
LC	PN		Literature
LC	PN	1-79	Literary History and Collections - General
LC	PN	80-100	Criticism
LC	PN	101-440	Authorship
LC	PN	441-1009	Literary History
LC	PN	1010-1559	Poetry

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LC	PN	1560-1599	The Performing Arts
LC	PN	1600-1999	The Drama
LC	PN	2000-3310	Dramatic Representation
LC	PN	3311-4000	Prose. Prose Fiction
LC	PN	4001-4399	Oratory. Elocution, etc.
LC	PN	4400-4499	Letters
LC	PN	4500-4698	Essays
LC	PN	4699-6010	Journalism
LC	PN	6011-6790	Collections of General Literature
LC	PQ		Romance Literatures
LC	PQ	1-1100	French Literature - History and Criticism
LC	PQ	1101-1299	French Literature - Collections
LC	PQ	1300-1410	French Literature - Old French Literature - Collections
LC	PQ	1411-1550	French Literature - Individual Authors and Works to 1400
LC	PQ	1551-1599	French Literature - Individual Authors and Works - 14th & 15th Centuries
LC	PQ	1600-1709	French Literature - Individual Authors and Works - 16th Century
LC	PQ	1710-1946	French Literature - Individual Authors and Works - 17th Century
LC	PQ	1947-2148	French Literature - Individual Authors and Works - 18th Century
LC	PQ	2149-2599	French Literature - Individual Authors and Works - 19th Century
LC	PQ	2600-3800	French Literature - Individual Authors and Works - 20th Century
LC	PQ	3801-4000	French Literature - Provincial, Local, Colonial, etc.
LC	PQ	4001-6000	Italian Literature
LC	PQ	6001-6170	Spanish Literature - History and Criticism
LC	PQ	6171-6270	Spanish Literature - Collections
LC	PQ	6271-6499	Spanish Literature - Individual Authors and Works to 1700
LC	PQ	6500-6599	Spanish Literature - Individual Authors and Works - 1700 to 1868
LC	PQ	6600-6999	Spanish Literature - Individual Authors and Works - 1869-
LC	PQ	7000-9000	Spanish Literature - Provincial, Local, Colonial, etc.
LC	PQ	9001-9999	Portuguese Literature
LC	PR		English Literature
LC	PR	1-80	History and Criticism
LC	PR	81-1097	History of English Literature
LC	PR	1098-1169	Collections - General
LC	PR	1170-1240	Collections - Poetry
LC	PR	1241-1489	Collections - Drama, Oratory, etc.
LC	PR	1490-1803	Anglo-Saxon Literature
LC	PR	1804-2198	Individual Authors and Works - Anglo-Norman Period
LC	PR	2199-3290	Individual Authors and Works - English Renaissance - 1500-1640
LC	PR	3291-3990	Individual Authors and Works - 17th & 18th Centuries - 1640-1770
LC	PR	3991-5999	Individual Authors and Works - 19th Century - 1770/1800-1890/1900
LC	PR	6000-6049	Individual Authors and Works - 20th Century - 1900-1960
LC	PR	6050-8308	Individual Authors and Works - 1960-
LC	PR	8309-9999	Provincial, Local, Colonial, etc
LC	PS		American Literature
LC	PS	1-84	General
LC	PS	85-503	History
LC	PS	504-580	Collections - General
LC	PS	581-622	Collections - Poetry
LC	PS	623-642	Collections - Drama
LC	PS	643-659	Collections - Prose
LC	PS	660-699	Collections - Oratory, Letters, Essays
LC	PS	700-990	Individual Authors and Works - 17th and 18th Centuries
LC	PS	991-3499	Individual Authors and Works - 19th Century
LC	PS	3500-3549	Individual Authors and Works - 1900 to 1960
LC	PS	3550-8000	Individual Authors and Works - 1960-
NLC	PS	8001-8040	Canadian Literature (English) - General
NLC	PS	8041-8060	Canadian Literature (English) - Criticism
NLC	PS	8061-8230	Canadian Literature (English) - History
NLC	PS	8231-8270	Canadian Literature (English) - Collections - General

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NLC	PS	8271-8304	Canadian Literature (English) - Collections - Poetry
NLC	PS	8305-8318	Canadian Literature (English) - Collections - Drama
NLC	PS	8319-8328	Canadian Literature (English) - Collections - Prose
NLC	PS	8329-8399	Canadian Literature (English) - Collections - Letters, Essays, etc
NLC	PS	8400-8449	Canadian Literature (English) - Individual Authors to 1867
NLC	PS	8450-8499	Canadian Literature (English) - Individual Authors -1867-1913
NLC	PS	8500-8549	Canadian Literature (English) - Individual Authors - 1914-1967
NLC	PS	8550-8599	Canadian Literature (English) -Individual Authors - 1968-
NLC	PS	9001-9040	Canadian Literature (French) - General
NLC	PS	9041-9060	Canadian Literature (French) - Criticism
NLC	PS	9061-9230	Canadian Literature (French) - History
NLC	PS	9231-9270	Canadian Literature (French) - Collections - General
NLC	PS	9271-9304	Canadian Literature (French) - Collections - Poetry
NLC	PS	9305-9318	Canadian Literature (French) - Collections - Drama
NLC	PS	9319-9328	Canadian Literature (French) - Collections - Prose
NLC	PS	9329-9399	Canadian Literature (French) - Collections - Letters, Essays, etc
NLC	PS	9400-9449	Canadian Literature (French) - Individual Authors to 1867
NLC	PS	9450-9499	Canadian Literature (French) - Individual Authors - 1867-1913
NLC	PS	9500-9549	Canadian Literature (French) - Individual Authors - 1914-1967
NLC	PS	9550-9599	Canadian Literature (French) - Individual Authors - 1968-
LC	PT		Germanic Literatures
LC	PZ		Fiction and Juvenile Literature
LC	PZ	1-4	Fiction in English
LC	PZ	5-90	Juvenile Literature
LC	Q		SCIENCE
LC	Q	1-299	Science - General
LC	Q	300-385	Cybernetics Information Theory
LC	QA		Mathematics
LC	QA	9-75	Mathematical Logic
LC	QA	76-100	Computer Science Electronic Data Processing
LC	QA	101-149	Elementary Mathematics Arithmetic
LC	QA	150-272	Algebra
LC	QA	273-275	Probabilities
LC	QA	276-296	Mathematical Statistics
LC	QA	297-299	Numerical Analysis
LC	QA	300-439	Analysis
LC	QA	440-800	Geometry
LC	QA	801-939	Analytic Mechanics
LC	QB		Astronomy
LC	QB	140-274	Practical and Spherical Astronomy
LC	QB	275-348	Geodesy
LC	QB	349-459	Theoretical Astronomy and Celestial Mechanics
LC	QB	460-467	Astrophysics
LC	QB	468-499	Non-Optical Methods of Astronomy
LC	QB	500-991	Descriptive Astronomy
LC	QC		Physics
LC	QC	81-119	Weights and Measures
LC	QC	120-169	Descriptive and Experimental Mechanics
LC	QC	170-219	Atomic Physics Constitution and Properties of Matter
LC	QC	220-250	Acoustics Sound
LC	QC	251-349	Heat
LC	QC	350-473	Optics Light
LC	QC	474-500	Radiation Physics - General
LC	QC	501-769	Electricity and Magnetism
LC	QC	770-800	Nuclear and Particle Physics. Atomic Energy. Radioactivity
LC	QC	801-810	Geophysics Cosmic Physics
LC	QC	811-850	Geomagnetism
LC	QC	851-999	Meteorology Climatology
LC	QD		Chemistry

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LC	QD	23-70	Alchemy
LC	QD	71-145	Analytical Chemistry
LC	QD	146-240	Inorganic Chemistry
LC	QD	241-449	Organic Chemistry
LC	QD	450-900	Physical and Theoretical Chemistry
LC	QD	901-999	Crystallography
LC	QE		Geology
LC	QE	351-419	Mineralogy
LC	QE	420-499	Petrology
LC	QE	500-639	Dynamic and Structural Geology
LC	QE	640-700	Stratographic Geology
LC	QE	701-996	Paleontology
LC	QH		Natural History - General
LC	QH	75-200	Nature Conservation. Landscape Protection
LC	QH	201-300	Microscopy
LC	QH	301-671	General Biology
LC	QK		Botany
LC	QK	641-700	Plant Anatomy
LC	QK	710-900	Plant Physiology
LC	QK	901-938	Plant Ecology
LC	QL		Zoology
LC	QL	750-800	Animal Behaviour and Psychology
LC	QL	801-950	Anatomy
LC	QL	951-991	Embryology
LC	QM		Human Anatomy
LC	QM	601-691	Human Embryology
LC	QP		Physiology
LC	QP	351-500	Neurophysiology. Neuropsychology
LC	QP	501-900	Animal Biochemistry
LC	QP	901-981	Experimental Pharmacology
LC	QR		Microbiology
LC	QR	1-179	Bacteria
LC	QR	180-354	Immunology
LC	QR	355-484	Virology
NLM	QS		Preclinical Sciences - Human Anatomy
NLM	QT		Preclinical Sciences - Physiology
NLM	QU		Preclinical Sciences - Biochemistry
NLM	QV		Preclinical Sciences - Pharmacology
NLM	QW		Preclinical Sciences - Bacteriology and Immunology
NLM	QX		Preclinical Sciences - Parasitology
NLM	QY		Preclinical Sciences - Clinical Pathology
NLM	QZ		Preclinical Sciences - Pathology
LC	R		MEDICINE
LC	R	1-130	Medicine - General
LC	R	131-734	History of Medicine
LC	R	735-894	Medical Education
LC	R	895-9999	Medical Physics. Electronics. Radiology, Radioisotopes, etc
LC	RA		Public Aspects of Medicine
LC	RA	5-420	Medicine and the State
LC	RA	421-790	Public Health. Hygiene. Preventive Medicine
LC	RA	791-959	Medical Geography
LC	RA	960-1000	Medical Centres. Hospitals. Clinics
LC	RA	1001-1189	Forensic Medicine
LC	RA	1190-1270	Toxicology
LC	RB		Pathology
LC	RC		Internal Medicine
LC	RC	86-320	First Aid in Illness and Injury
LC	RC	321-951	Neurology and Psychiatry
LC	RC	952-954	Geriatrics

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LC	RC	955-962	Arctic and Tropical Medicine
LC	RC	963-969	Industrial Medicine
LC	RC	970-1029	Military Medicine
LC	RC	1030-1199	Transportation Medicine
LC	RC	1200-1245	Sports Medicine
LC	RD		Surgery
LC	RD	92-700	Wounds and Injuries
LC	RD	701-796	Orthopedics
LC	RE		Ophthalmology
LC	RF		Otorhinolaryngology
LC	RG		Gynecology and Obstetrics
LC	RJ		Pediatrics
LC	RK		Dentistry
LC	RL		Dermatology
LC	RM		Therapeutics. Pharmacology
LC	RM	214-269	Diet Therapy
LC	RM	270-282	Serum Therapy
LC	RM	283-299	Endocrinotherapy
LC	RM	300-694	Drugs and their Action
LC	RM	695-890	Physical Medicine. Medical Radiology
LC	RS		Pharmacy and Materia Medica
LC	RT		Nursing
LC	RV		Botanic, Thomsonian and Eclectic Medicine
LC	RX		Homeopathy
LC	RZ		Other Systems of Medicine
LC	RZ	201-300	Chiropractic
LC	RZ	301-399	Osteopathy
LC	RZ	400-408	Mental Healing
LC	S		AGRICULTURE
LC	S	1-559	Agriculture - General
LC	S	560-582	Farm Management. Farm Economics
LC	S	583-589	Agricultural Chemistry and Physics
LC	S	590-604	Soils
LC	S	605-621	Reclamation and Irrigation of Farmland
LC	S	622-630	Soil Conservation
LC	S	631-670	Fertilizers and Soil Improvement
LC	S	671-899	Farm Machinery and Engineering
LC	S	900-972	Conservation of Natural Resources
LC	SB		Plant Culture
LC	SB	110-113	Methods for Special Areas
LC	SB	114-118	Seeds
LC	SB	119-182	Propagation
LC	SB	183-317	Field Crops
LC	SB	318-450	Horticulture
LC	SB	451-468	Gardens and Gardening
LC	SB	469-480	Landscape Gardening
LC	SB	481-598	Parks and Public Reservations
LC	SB	599-999	Diseases and Pests
LC	SD		Forestry
LC	SD	391-410	Sylviculture
LC	SD	411-429	Conservation and Protection
LC	SD	430-560	Exploitation and Utilization
LC	SD	561-668	Forest Policy and Administration
LC	SF		Animal Culture
LC	SF	91-94	Housing and Environmental Control
LC	SF	95-104	Feeds and Feeding. Animal Nutrition
LC	SF	105-113	Breeds and Breeding
LC	SF	114-190	Exhibitions. Judging. Stock Shows
LC	SF	191-276	Cattle

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LC	SF	277-370	Horses
LC	SF	371-380	Sheep Wool
LC	SF	381-390	Goats
LC	SF	391-401	Swine
LC	SF	402-405	Fur-Bearing Animals
LC	SF	406-410	Laboratory Animals
LC	SF	411-460	Pets
LC	SF	461-520	Birds
LC	SF	521-599	Insects
LC	SF	600-1100	Veterinary Medicine
LC	SH		Aquaculture. Fisheries
LC	SH	401-691	Angling
LC	SK		Hunting
LC	SK	351-579	Wildlife Management
LC	T		TECHNOLOGY
LC	T		Technology - General
LC	T	54-55	Industrial Safety
LC	T	56-200	Industrial Engineering
LC	T	201-350	Patents. Trademarks
LC	T	351-390	Engineering Graphics
LC	T	391-995	Exhibitions. World's Fairs
LC	TA		Engineering - General. Civil Engineering - General
LC	TA	166-167	Human Engineering
LC	TA	168-177	Systems Engineering
LC	TA	178-348	Engineering Economy
LC	TA	349-400	Mechanics of Engineering
LC	TA	401-500	Materials of Engineering and Construction
LC	TA	501-629	Surveying
LC	TA	630-704	Structural Engineering - General
LC	TA	705-714	Engineering Geology
LC	TA	715-799	Earthwork. Foundations
LC	TA	800-1000	Tunneling. Tunnels
LC	TA	1001-1500	Transportation Engineering - General
LC	TA	1501-2000	Applied Optics. Lasers
LC	TA	2001-2030	Plasma Engineering
LC	TC		Hydraulic Engineering
LC	TD		Environmental Technology. Sanitary Engineering
LC	TD	159-171	Municipal Engineering
LC	TD	172-200	Environmental Pollution
LC	TD	201-510	Water Supply for Domestic and Industrial Purposes
LC	TD	511-784	Sewage Collection and Disposal Systems
LC	TD	785-812	Municipal Refuse
LC	TD	813-876	Street Cleaning
LC	TD	877-894	Special Types of Pollution
LC	TD	895-899	Industrial Sanitation
LC	TE		Highway Engineering
LC	TF		Railroad Engineering and Operation
LC	TG		Bridge Engineering
LC	TH		Building Construction
LC	TH	845-999	Architectural Engineering
LC	TH	1000-2030	Systems of Building Construction
LC	TH	2031-4020	Details
LC	TH	4021-5010	Buildings: Construction with Reference to Use
LC	TH	5011-6013	Construction by Phase of Work
LC	TH	6014-9024	Environmental Engineering
LC	TH	9025-9745	Protection of Buildings
LC	TJ		Mechanical Engineering and Machinery
LC	TJ	212-267	Control Engineering
LC	TJ	268-1124	Steam Engineering

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LC	TJ	1125-1479	Machine Shops and Machine Shop Practice
LC	TJ	1480-1496	Agricultural Machinery
LC	TK		Electrical Engineering. Electronics
LC	TK	1001-1999	Production of Electric Energy
LC	TK	2000-3000	Dynamoelectric Machinery
LC	TK	3001-4124	Distribution or Transmission of Electric Power
LC	TK	4125-5100	Electric Lighting
LC	TK	5101-7799	Telecommunications
LC	TK	7800-9000	Electronics. Computer Engineering
LC	TK	9001-9401	Nuclear Engineering
LC	TL		Motor Vehicles. Aeronautics. Astronautics
LC	TL	1-499	Motor Vehicles
LC	TL	500-779	Aeronautics
LC	TL	780-786	Rockets
LC	TL	787-4050	Astronautics
LC	TN		Mining Engineering
LC	TP		Chemical Technology
LC	TP	155-199	Chemical Engineering
LC	TP	200-314	Manufacture and Use of Chemicals
LC	TP	315-367	Fuel
LC	TP	368-479	Food Processing and Manufacture
LC	TP	480-499	Low Temperature Engineering. Refrigeration
LC	TP	500-689	Fermentation Industries
LC	TP	690-699	Petroleum Refining and Products
LC	TP	700-784	Gas Industry
LC	TP	785-889	Clay Industries. Ceramics
LC	TP	890-933	Textile Dyeing and Printing
LC	TP	934-1079	Paints, Pigments, Varnishes, etc.
LC	TP	1080-1185	Polymers, Plastics and their Manufacture
LC	TR		Photography
LC	TS		Manufactures
LC	TS	155-194	Production Management
LC	TS	195-199	Packaging
LC	TS	200-799	Metal Manufactures
LC	TS	800-939	Wood Technology
LC	TS	940-1079	Leather Industries
LC	TS	1080-1299	Paper Manufacture
LC	TS	1300-1869	Textile Industries
LC	TS	1870-1949	Rubber Industry
LC	TS	1950-2119	Animal Products
LC	TS	2120-2219	Cereals and Flour
LC	TS	2220-2283	Tobacco Industry
LC	TT		Handicrafts. Arts and Crafts
LC	TT	161-179	Manual Training. Industrial Arts
LC	TT	180-204	Woodworking. Furniture Making
LC	TT	205-299	Metalworking
LC	TT	300-386	Painting
LC	TT	387-489	Soft Home Furnishings
LC	TT	490-696	Clothing Manufacture
LC	TT	697-949	Needlework. Decorative Crafts
LC	TT	950-979	Hairdressing. Barbers' Work
LC	TT	980-999	Laundry Work
LC	TX		Home Economics
LC	TX	301-340	The House
LC	TX	341-644	Nutrition
LC	TX	645-900	Cookery
LC	TX	901-954	Hotels, Restaurants, Taverns
LC	TX	955-1099	Building Operation and Maintenance
LC	TX	1100-1107	Mobile Home Living

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LC	U		MILITARY SCIENCE
LC	U		Military Science - General
LC	U	750-799	Military Life, Manners and Customs
LC	U	800-897	History of Arms and Armor
LC	UA		Armies: Organization, Description, Facilities, etc.
LC	UB		Military Administration
LC	UC		Maintenance and Transportation
LC	UD		Infantry
LC	UE		Cavalry
LC	UF		Artillery
LC	UG		Military Engineering
LC	UG	622-1425	Air Forces. Air Warfare
LC	UH		Other Services
LC	V		NAVAL SCIENCE
LC	V		Naval Science - General
LC	V	720-749	Naval Life, Manners and Customs
LC	V	750-995	War Vessels: Construction, Armaments, etc.
LC	VA		Navies: Organization, Description, Facilities, etc.
LC	VB		Naval Administration
LC	VC		Naval Maintenance
LC	VD		Naval Seamen
LC	VE		Marines
LC	VF		Naval Ordnance
LC	VG		Minor Services of Navies
LC	VK		Navigation. Merchant Marine
LC	VK	588-599	Marine Hydrography
LC	VK	600-797	Tide and Current Tables
LC	VK	798-999	Pilot Guides
LC	VK	1000-1249	Lighthouse Service
LC	VK	1250-1299	Shipwrecks and Fires
LC	VK	1300-1499	Saving of Life and Property
LC	VK	1500-1661	Pilots and Pilotage
LC	VM		Naval Architecture
LC	VM	975-989	Diving
NLM	W		MEDICINE AND RELATED SUBJECTS
NLM	W		Medical Profession
NLM	WA		Public Health
NLM	WB		Practice of Medicine
NLM	WC		Infectious Diseases
NLM	WD	100	Deficiency Diseases
NLM	WD	200	Metabolic Diseases
NLM	WD	300	Diseases of Allergy
NLM	WD	400	Animal Poisoning
NLM	WD	500	Plant Poisoning
NLM	WD	600	Diseases caused by Physical Agents
NLM	WD	700	Aviation and Space Medicine
NLM	WE		Musculoskeletal System
NLM	WF		Respiratory System
NLM	WG		Cardiovascular System
NLM	WH		Hemic and Lymphatic Systems
NLM	WI		Gastrointestinal System
NLM	WJ		Urogenital System
NLM	WK		Endocrine System
NLM	WL		Nervous System
NLM	WM		Psychiatry
NLM	WN		Radiology
NLM	WO		Surgery
NLM	WP		Gynecology
NLM	WQ		Obstetrics

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NLM	WR		Dermatology
NLM	WS		Pediatrics
NLM	WT		Geriatrics Chronic Disease
NLM	WU		Dentistry. Oral Surgery
NLM	WV		Otorhinolaryngology
NLM	WW		Ophthalmology
NLM	WX		Hospitals
NLM	WY		Nursing
NLM	WZ		History of Medicine
LC	Z		BIBLIOGRAPHY LIBRARY SCIENCE
LC	Z	1-3	Books in General
LC	Z	4-39	History of Books and Book-making
LC	Z	40-115	Writing - Including Typwriting, Cryptography, etc
LC	Z	116-661	Book Industries and Trade - Printing, Bookbinding etc
LC	Z	662-1000	Libraries and Library Science
LC	Z	1001-8999	Bibliography

UTLAS Standard Print Constants for Serials

Tag Value		English	French
1035	d	daily	quotidien
	c	semi-weekly	deux nos par semaine
	w	weekly	hebdomadaire
	e	bi-weekly	bimensuel
	s	semi-monthly	deux nos par mois
	m	monthly	mensuel
	b	bi-monthly	bimestriel
	q	quarterly	trimestriel
	t	three times per year	trois nos par an
	f	semi-annual	semestriel
	a	annual	annuel
	g	biennial	bisannuel
	h	triennial	trisannuel
	i	three times a week	trois nos par semaine
	j	irregular	irrégulier

NOTE: u, z, blank: no print constant

246, indicator 2=0 *	1	Titles in other languages:	Titres en d'autres langues:
"	2	Distinctive title:	Titre distinctif:
"	3	Other title:	Autre titre:
"	4	Cover title:	Titre de la couverture:
"	5	Added title page title:	Titre de la page de titre additionnelle:
"	6	Caption title:	Titre de départ
"	7	Running title:	Titre courant:
"	8	Spine title:	Titre du dos:

NOTE: 246 indicator 1 should have no effect on the printing of the print constants and the notes themselves; it should only control the generation of the added entries (which do not include the print constants).

* Do not print a note; see indicator 1 for printing or non-printing of added entry.

UTLAS Standard Print Constants for Serials

505, indicator	1 = 0 or 1	Contents:	Dépouillement:
	2	Partial contents:	Dépouillement partiel:
772, indicator	2 = 0	Supplement to:	Supplément de:
	1	Special Issue to:	Numéro spécial de:
777, indicator	2 = 0	Issued with:	Publié avec:

NOTE: Indicator 1 of 777 equals 0 means: print a note;
Indicator 1 equals 1 means: do not print a note.

780, indicator	2 = 0	Continues:	Fait suite à:
	1	Continues in part:	Fait suite aprés scission à:
	2	Supersedes:	Remplace:
	3	Supersedes in part:	Remplace en partie:
	4	Formed by the union of:	Fusion de:
	5	Absorbed:	Absorbe:
	6	Absorbed in part:	Absorbe en partie:
785, indicator	2 = 0	Continued by:	Continué par:
	1	Continued in part by:	Continué en partie par:
	2	Superseded by:	Remplacé par:
	3	Superseded in part by:	Remplacé en partie par:
	4	Absorbed by:	Absorbé par:
	5	Absorbed in part by:	Absorbé en partie par:
	6	Split into:	Scindé en:
	7	Merged with:	Fusionné avec:
	8	Resumed as:	Redevient:

Appendix II

UTLAS Standard Print Constants for Monographs or A/V

Tag Number	English	French
013	NLM:	NLM:
016	CAN:	CAN:
020	ISBN	ISBN:
030	CODEN:	CODEN:
090$d	Library has:	La Bibliotheque a:
505 (I1=1)	CONTENTS:	DEPOUILLEMENT:
505 (I2=2)	PARTIAL CONTENTS:	DEPOUILLEMENT PARTIEL:
508	CREDITS:	GENERIQUE:
**511 (I1=ƀ or 1)	CAST:	DISTRIBUTION:
511 (I1=2)	PRESENTER:	ANIMATEUR:
511 (I1=3)	NARRATOR:	RACONTEUR:
*520	SUMMARY:	RESUME SIGNALETIQUE:
521	AUDIENCE:	PUBLIC:

* Does not print when FF1030=S

** Does not print when I1=0 or ƀ

N.B. The print constant for the 5xx tags above will apear unless the identical print constant is already in the data.

Appendix II

UTLAS Standard Print Constants for Serials

Tag Number	English	French
010	LC:	LC:
020 ($a, or all)	ISBN:	ISBN:
022 $a, or all)	ISSN:	ISSN:
222	Key Title;	Titre-clé
247	Title varies;	Variations de titre;
310	Current Frequency:	Périodicité courante:
321	Former frequency:	Périodicité antérieure:
570	Editors:	Rédacteurs:
760	Subseries of:	Sous-collection de:
762	Has subseries:	A sous-collection:
765	Translation of:	Traduction de:
767	Translated as:	Traduit sous le titre:
770	Has supplement:	A pour supplément:
775	Other editions available:	Autres éditions disponibles:
776	Available in other form:	Disponible sous une autre forme:

Note: Fields 760 - 787 print only when Indicator I=0.

APPENDIX II

PRINT CONSTANTS

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XEROX 9700 XEROX 9700 XEROX 9700 XEROX 9700 XEROX 9700 XEROX 9700 XEROX
XEROX 9700 XEROX 9700 XEROX 9700 XEROX 9700 XEROX 9700 XEROX 9700 XEROX
XEROX 9700 XEROX 9700 XEROX 9700 XEROX 9700 XEROX 9700 XEROX 9700 XEROX
XEROX 9700 XEROX 9700 XEROX 9700 XEROX 9700 XEROX 9700 XEROX 9700 XEROX


  DATE:          26 OCT 79  AT  15:35:45

  DEPARTMENT:    MKTEST JDL

  JOB ID:        177      REPORT NO: 1

  FILE ID:

  INPUT PROCESSING TIME:    00:00:14

  OUTPUT PROCESSING TIME:   00:00:12

  REPORT COMPLETION CODE:   0

     DATA PAGES PRINTED:    17

     PAGES TO TRAY:         0

     PAPER PATH HOLES:      0

     DATA LINES PRINTED:    960

     TAPE MOUNTS:           1

     BLOCKS READ:           975

     BLOCKS SKIPPED:        0

     RECORDS READ:          975

     DJDE RECORDS READ:     0

     NUMBER OF COPIES:      1

     OVERPRINTS:            0

     COLLATE:               YES

     SF/MF :                MULTI

  JDE,JDL USED:             100,MKTEST

  ACCTINFO:

  INITIAL FONT LIST:      L0112C




  INITIAL FORM LIST:      EDLIST




  INITIAL CME LIST:       -NONE


XEROX 9700 XEROX 9700 XEROX 9700 XEROX 9700 XEROX 9700 XEROX 9700 XEROX
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BCUC FEATURE COMPARISON -- AUTHORITY CONTROL

CRITERIA	WLN	UTLAS
1.0 General Information		
1.1 Is there an automated authority control system in operation?	1.1 Yes.	1.1 Yes.
1.2 How long has it been in use?	1.2 Batch programs available and operating in 1971. Present on-line programs implemented in 1977.	1.2 Mid 1978.
1.3 How many authority records are there now (as of August 1979) list source and number per source		
a) total authorities	1.3 a) 1, 853, 262	1.3 a) 275 K - LC names, 111 K; SHARAF shared authority file, 150 K; user authorities, 15 K; and PRECIS.
b) total names	b) Not known (X-refs not sep. records)	b) Unknown since SHARAF contains subjects and series (almost all names - 275 K).
c) total subjects	c) Not known (X-refs not sep. records)	c) Unknown, plan to load LC subjects (February 1980).
d) total cross reference	d) Not known (X-refs not sep. records)	d) Unknown, almost all SHARAF authorities have cross references.
e) local headings	e) Not known (X-refs not sep. records)	e) 15 K
1.4 Are the LC MARC authorities an input to the system?		
a) names	1.4 a) Not presently.	1.4.a) Yes.
b) subjects	b) Not presently.	b) Yes, February 1980.
1.5 What are the other sources of input? E.g., NLC	1.5 Headings are automatically pulled out of new bibliographic records. However, headings are stripped from LC MARC records, so there are LC children's headings, NAL headings, NLM headings, and NLC English and French headings. LC subject X-refs are being added manually, as well as changes.	1.5 National Library of Canada and Laval University.

BCUC FEATURE COMPARISON -- AUTHORITY CONTROL

CRITERIA	WLN	UTLAS
2.0 File Organization		
2.1 Diagram of file layout attachments ____	2.1	2.1 See diagram of file structure.
2.2 What files are linked?	2.2 The bibliographic and authority files are linked.	2.2 The resource file, the user bibliographic file, or the user authority index.
2.3 Is the heading or an access number stored in the bib record?	2.3 The Authority Access Number is stored in the bibliographic record. Bibl. Access No. is stored in author record also.	2.3 Access number.
2.4 What does the authority record look like, i.e., data elements?	2.4 See Inquiry Manual.	2.4 See Authority Format.
2.5 Does the heading record have and display the source of the heading, e.g., LC, or local library symbol?	2.5 If the heading is other than LC adult headings, then the authority for the heading is displayed as a code on the display screen. The codes are: C = LC Children's headings, M = MESH headings, A = NAL, F = NLC - French, E = NLC - English.	2.5 Yes.
2.6 Does the heading indicate the rules by which it was created? E.g., AACR1, AACR2, LC interpetation.	2.6 Not at present.	2.6 Yes.
2.7 Is this information used to suppress AACR2 headings until 1981?	2.7 Not at present.	2.7 Yes.
3.0 Validation of Bibliographic Input		
3.1 Are headings updated automatically on input?	3.1 No, new headings are added immediately. A printed report is made of the headings that do not match.	3.1 Yes, either field by field or input as the entire record when complete.
3.2 Is there a hierarchy of matching against authorities?	3.2 No - there is only one authority file.	3.2 Yes.
3.3 Can it be set for each individual user?	3.3 No.	3.3 Yes.
3.4 For groups of users?	3.4 No.	3.4 Yes.

BCUC FEATURE COMPARISON -- AUTHORITY CONTROL
(CONT'D)

CRITERIA	WLN	UTLAS
3.5 How are the LC authority tapes loaded and the file updated?	3.5 They are not loaded.	3.5 The LC authority is changed and any heading linked to it is changed.
3.6 Is batch update of bibliographic records from user as well as LC possible?	3.6 Yes - but the headings must be manually verified by the Bibliographic Maintenance Staff of WSL/WLN if there are new headings to the file.	3.6 Yes.
4.0 Update of Authority Records		
4.1 When an authority record is changed, are all the linked records changed automatically? How is the owner of the bib linked record notified?	4.1 Yes - user notified unless main entry.	4.1 a) Yes. b) By a Noise Report of changes. A user may also have a separate local authority file, so changes are not made automatically--but only after review. (Copy attached.)
4.2 Can an update replace any matching heading or is the replacement limited to matching records of the same source? E.g., LC update to LC heading, or LC update to any matching heading.	4.2 An update cannot automatically replace an existing heading. All duplications, conflicts, or new headings must be reviewed by the Bibliographic Maintenance Staff of WSL/WLN for revision.	4.2 Updates can replace records or headings of the same source automatically.
4.3 How are local headings handled when in conflict with one another and/or LC?	4.3 Local headings in conflict are not allowed.	4.3 The local headings appear in the local authority file, and the conflicting LC headings do not.
5.0 Other Services and Products		
5.1 Are there cross references and notes (scope)?	5.1 Yes - these are added manually on a systematic basis. WLN users cannot modify headings or notes.	5.1 Yes.
5.2 Are there bilingual headings?	5.2 French Canadian records are on the file, but not linked to corresponding English records.	5.2 Yes.
5.3 Are the authority records and cross references used in production of batch products?		
a) Catalog cards	5.3.a) Yes -for regular cards, but not cross reference cards.	5.3 a) The most up-to-date heading is used at the start of production. Cross references and scope notes do not appear as cards.

BCUC FEATURE COMPARISON -- AUTHORITY CONTROL
(CONT'D)

CRITERIA	WLN	UTLAS
5.3 b) Book catalogs (in print or microfilm).	5.3 b) Yes.	5.3 b) Not in general production. There have been SEE only references in some catalogs. Schedule first user in December 1979.
5.4 Can a user request a tape of bib and authority records in LC MARC communications format?	5.4 No - the authority records cannot be output as a separate Authority file, or even as separate Authority records.	5.4 Not at present. Bibliographic only now available. Authorities will be available in 1980.
5.5 Other authority batch or off-line products?	5.5 Internal error listing, the SOB, for use in maintaining the file.	5.5 Noise - batch error list. In the future, planning a COM of authority file (1st quarter 1980).
6.0 Linkages to Other Subsystems		
6.1 Is the authority file linked to the circulation files?	6.1 No.	6.1 Yes. Synchron can pull authority records and process them for the on-line public catalog.
6.2 Is the authority file linked to the acquisition files?	6.2 Yes - for full bibliographic records, but not for interim bibliographic records.	6.2 Not at present; planned.

BCUC FEATURE COMPARISON -- BATCH SERVICES & PRODUCTS

CRITERIA	WLN	UTLAS
1.0 Catalog Cards		
1.1 Are cards available for all MARC formats? If not, which formats are ommitted?	1.1 Cards are produced from monograph film and serials records. Cards are not available for maps, music, and manuscripts.	1.1 Cards are produced for monographs, serials, and A/V materials.
1.2 How frequently are they produced?	1.2 Weekly.	1.2 Daily or weekly depending on user request.
1.3 Describe categories where options in format are available. Card profile is attached as Appendix _.	1.3 Options include: call number selection and format, product quantity, and type of subject headings.	1.3 English or French headings, sorted or sets, call number, copy information. There is a standard product description.
1.4 Can cards be pre-sorted?	1.4 No. Complete sets only.	1.4 Cards may be pre-sorted as sets or streams.
1.5 Are cross reference cards available?	1.5 No.	1.5 No.
2.0 Labels		
2.1 Are book labels produced?	2.1 Yes.	2.1 Yes.
2.2 Spine labels?	2.2 Yes.	2.2 Yes.
3.0 Edit Lists		
3.1 How are records selected for edit lists?	3.1 User can use printer attached to CRT terminal to print the display. Or, for batch processing of groups of records, edit lists are produced.	3.1 BATCH CATSS input or use of the LIST command.
3.2 What information is available?	3.2 Full record.	3.2 Full record for hits in BATCH CATSS and LIST records. Search key only for non-hits in BATCH CATSS.
3.3 How frequently are they produced?	3.3 On demand, that is, whenever the batch input programs are run, and they are scheduled at the user's request.	3.3 Either daily or weekly for LIST command, or whenever BATCH CATSS run. Also, most users have a slave printer attached to their terminal.
3.4 Are edit lists accompanied by error listings? When?	3.4 Not as of this date.	3.4 No.

BCUC FEATURE COMPARISON -- BATCH SERVICES & PRODUCTS
(CONT'D)

CRITERIA	WLN	UTLAS
4.0 COM		
4.1 Are both microfiche and microfilm available?	4.1 Microfiche has been produced since 1975. Microfilm generation currently being tested for production.	4.1 Yes.
4.2 What reduction ratio?	4.2 42X	4.2 48X, 42X, 24X
4.3 Do you produce or subcontract the fiche or film generation?	4.3 Subcontract to a commercial vendor in Spokane, Washington.	4.3 Subcontract.
4.4 Are all MARC formats available in microfilm?	4.4 Monograph, serial and film records can be used in COM catalogs.	4.4 Monographs, serials, and A/V.
4.5 Are both full and abbreviated entries possible in:		
a) the same catalog?	4.5 a) Not in the same catalog segment (author, title, subject) but yes in separate segments.	4.5 a) Yes.
b) different catalogs?	b) Yes.	b) Yes.
4.6 Sequences available?		
a) author (including added entries) separate	4.6 a) Yes.	4.6 a) Yes.
b) title separate	b) Yes.	b) Yes.
c) subject separate	c) Yes.	c) Yes.
d) shelf list (LC and Dewey)	d) No.	d) Yes.
e) author and title combined	e) Yes.	e) Yes.
f) author, title and subject combined	f) Yes.	f) Yes.
g) classed catalog	g) No.	g) Yes.
h) register - index	h) Yes.	h) No, this has been requested and will be available.
4.7 Are union catalogs available? Cite examples of existing union catalogs.	4.7 Yes, the Resource Directory of WLN participants. A subset of all users have not yet been used to generate a union catalog.	4.7 Yes, union list of Serials - Consortium of Libraries in Ontario & Quebec.

BCUC FEATURE COMPARISON -- BATCH SERVICES & PRODUCTS
(CONT'D)

CRITERIA	WLN	UTLAS
4.8 Frequency of generation:		
a) master only	4.8 a) Negotiable.	4.8 a) Master only available.
b) master plus supplements - weekly, monthly, bimonthly, semiannual, quarterly	b) Negotiable.	b) Negotiable with user.
4.9 a) Are there cross references in the catalogs?	4.9 a) Yes.	4.9 a) Yes - but only SEE references. Full reference structure should be available December 1979.
b) Is there a check for blind references?	b) Yes.	b) Yes.
5.0 Magnetic Tapes		
5.1 Are these available in the LC MARC communications format?	5.1 Yes, the COMARC tapes from WSL were generated by WLN.	5.1 Yes.
5.2 Other formats for tape delivery?	5.2 None presently available.	5.2 Yes, the LCMS format for the UTLAS circulation system.
5.3 Frequency of tape generation. One time, on demand, weekly, monthly, quarterly, annual.	5.3 On demand.	5.3 Weekly, biweekly, monthly, bimonthly, and on demand.
6.0 Paper Catalogs		
6.1 Are the same kinds of catalogs available on paper as microfilm? Explain differences.	6.1 Yes, the same kinds are available. The only difference is the output medium.	6.1 Yes.
6.2 Are photocoposition catalogs available?	6.2 Yes, but note these programs are not now part of the WLN software packages. The older programs for the resource directory produced a photo-composed catalog.	6.2 No. UTLAS produces camera ready copy.
6.3 Are computer lineprint lists available?	6.3 Yes.	6.3 Yes.
7.0 Miscellaneous		
7.1 Are microforms of the resource data base or portions available?	7.1 Yes.	7.1 Not at present. There are plans to make an authority file fiche for reference use.

APPENDIX C

COST ANALYSIS - DETAIL

1. Estimated Expenditures on UTLAS

by Paul E. Baldwin, Director, BCUC.

December 17, 1979.

SUMMARY OF ESTIMATED BCUC EXPENDITURES ON CATALOGUING SUPPORT 1979/80 USING UTLAS

		1979 Dollars
I.	BCUC Member Libraries Expenditures on UTLAS	
	A. On-line CATSS expenditures	$ 892,400
	B. COM products expenditures	236,000
	C. Catalogue card products expenditures	30,000
	D. Magnetic tape service	4,300
	Subtotal UTLAS Expenditures	$1,162,700
II.	BCUC Central Office Expenditures 1979/80 (less interior data communications subsidy)	300,000
III.	Subtotal [illegible] Network Expenditures 1979/80	$1,462,700
IV.	Incremented Expenditures if UTLAS Authorities System were implemented	451,900
V.	Additional Expenditures from potential new BCUC member libraries 1980/81 in 1979 dollars (cataloguing support only)	250,000
IV.	Total BCUC Expenditures on cataloguing support using UTLAS (with authorities) (current cataloguing only)	$2,164,600

I. BCUC Member Libraries Expenditures on UTLAS	1979 Dollars
A. On-line CATSS Expenditures	
1. Terminal connect time costs (230,000 x 10 min. ÷ 60 min. x 9.00 per hour)	345,000
2. Precise key record searching (230,000 x 2 avg./record x .01 ea.)	4,600
3. Bibliographic record displays (i.e., those not subsequently filed) (230,000 x .33 avg. x .15 ea.)	11,400
4. Record processing	
a. File commands with products (230,000 x .30 ea.)	69,000
b. No ind. commands for record updates (including av/ac's, loc changes, corrections, etc.) (230,000 x .5 avg. x .15 ea.)	17,300
5. Record derivations (230,000 x .75 avg. x .45 ea.)	77,700
6. Data storage; file security and maintenance	
a. 26 RSN ranges x 500 ea. per year	13,000
b. Active storage (230,000 x .01 ea. per wk.)	2,300
c. Passive storage (855,000 avg. records in the yr. x 52 wk. x .80 ÷ 1,000)	35,600
7. Data communications and equipment expenditures (avg. 575 per month per terminal x 12 months x 35 terminals)	241,500
8. Interior data communications subsidy	75,000
9. Subtotal on-line CATSS expenditures	892,400

B. COM Products Expenditures Estimate

1. Estimated records selected and entries generated

File size beginning of fiscal year:	680,000 records
Current cataloguing during year:	185,000 records (less UBC and U.Vic.)
RECON:	120,000 records (less UBC and U.Vic.)
Avg. file growth/month:	25,000 records

B. COM Products Expenditures Estimate (continued)

Suppl. Production	
1st suppl.	25,000
2nd	50,000
3rd	75,000
4th	100,000
5th	125,000
6th	150,000
ANNUAL	830,000
7th suppl.	25,000
8th suppl.	50,000
9th suppl.	75,000
10th suppl.	100,000
11th suppl.	125,000

1,730,000 records x 5.8 entries avg./record = 10,034,000 total entries generated

Estimate: 8,034,000 entries printed at .02 each
2,000,000 entries printed at .018 each discount

2. Detailed COM Estimate

		1979 Dollars
a.	Run charges (21 libraries x 12 months x 25.00/run)	6,300
b.	1,730,000 records selected ÷ 1,000 x 5.00 per 1,000	8,700
c.	8,034,000 entries printed at .02 each	160,000
d.	2,000,000 entries printed at .018 each	36,000
e.	COM master expenditures (10,034,000 entries ÷ 16 per page ÷ 200 pages avg. = 3,135 master fiche sheets x 4.90 each)	15,300
f.	COM Fiches Copies 3,135 masters x 15 copies each avg. x .19	9,000
g.	Total COM Products Expenditures	236,000

C. Catalogue Card Production Expenditures	1979 Dollars
1. Shelf List Cards	
(a) 200,000 titles x 1.25 cards x .055/card	13,700
(b) 20 libraries x 52 weeks x 7.50 per week production run	7,800
2. Full Sets of Cards	
25,000 titles x 4.8 entries x 1.25 cards x .055 each	8,250
	29,750
Rounded to:	$ 30,000

D. Magnetic Tape Service	
(Used by BCIT and UBC Libraries)	
Estimate 25 runs at $21.00 each	$ 525
25 tapes at 9.00 each	225
Estimate 100,000 records at .035 each	3,500
Rounded to:	$ 4,300

II. BCUC Central Office Expenditures 1979/80

A. 1979/80 Expenditures	375,000
B. Iess interior data communications	(75,000)
C. Net BCUC Central Office Expenditures	300,000

III. Subtotal BCUC Network Expenditures

1979/80	$1,462,700

IV. Incremented Expenditures if UTLAS Authorities System Were Implemented by BCUC Member Libraries

A. Additional current cataloguing costs by BCUC Member Libraries

1. Record validation 230,000 titles x .05 each	11,600
2. COM production expenditures	
a. 1,730,000 records x 3.5 HDNGS x .003 each	18,200
b. 1,730,000 records x .2 x refs x .02 each	7,000
3. Additional catalogue card costs	
a. 230,000 titles (s.e. cards) x 3.5 hdngs. x .003 each	2,400
Subtotal	39,200

B. Additional Authority Record Expenditures By BCUC Members

Assume one authority record created per title catalogued

1. Connect time expenditures 230,000 x 4 min. ÷ 60 x 9.00	138,000
2. Record filing 230,000 x .20 each	46,000
3. Creation of browsable indices 230,000 x 2 avg. x .05 each.	23,000
4. Creation of key words 230,000 x 2 x .0025 each	1,000
5. COM Authorities List	
26 member libraries x 2,500 per library per year	65,000
Subtotal	273,000

C. Deputy SHARAF Annual Expenditures Estimate (BCUC Share only)

1. Staff Expenditures	
a. 1 Librarian	20,000
b. 1 Library Assistant	16,000
c. 2 Data Input Operators	24,000
Subtotal	60,000
d. Fringe benefits (at 20%)	12,000
e. Subtotal Staff Expenditures	72,000

C. Deputy SHARAF Annual Expenditures Estimate (Continued)

2. Other Deputy SHARAF Expenditures

a.	Data communications and equipment (incld. maintenance)	14,000
b.	Connect time expenditures (2,600 hours x 9.00/hour)	23,400
c.	40,000 records re-filed at .20 each	8,000
d.	Browsable searching 40,000 x .03 each	1,200
e.	Mini-record displays 40,000 x 6 avg. x .02 each	4,800
f.	Record storage cost eximate 300,000 x .01	3,000
g.	COM authorities list	2,500
h.	NOISE REPORTS (40,000 x .12)	4,800
i.	Travel budget (8 person meetings x 750 each)	6,000
		67,700

D. Total Authorities Expenditures $451,900

V. Additional Expenditures From Potential New BCUC Member Libraries 1980/81 Current Cataloguing Expenditures Only

A.	Vancouver Public Library	20,000 Titles
B.	Greater Victoria Public Library	15,000 Titles
C.	Other Lower Mainland Public Libraries	15,000 Titles
		50,000 Titles

D. Average Expenditure per title: $5.00 per title in 1979/80

E. Total Estimated Additional Expenditures by New BCUC Member Libraries: $250,000

DETAIL ESTIMATES: BCUC CATSS Costs for Current Cataloguing 1979/80
With Authority File Implementation Addendum --
Prepared by Paul E. Baldwin, December 10, 1979

I. Connect time per title catalogued 1978/79. (Note: pro-rata of all on-line activities onto net new titles added to the user file.)

	Library	Hours	Titles	Avg. Min./Title
1.	CAM	185.76	1,393	8.00
2.	CAP	212.72	2,940	4.34
3.	CAR	181.39	953	11.42
4.	DTUC	79.40	328	14.52
5.	EAK	229.83	2,114	6.52
6.	FVC	353.20	2,169	9.77
7.	JIN	5.38	97	3.32
8.	LEG	112.65	382	17.69
9.	MAL	298.47	1,562	11.46
10.	CNC	165.01	1,282	7.72
11.	NLI	142.28	938	9.10
12.	OKA	203.01	1,703	7.18
13.	PVI	119.71	768	9.35
14.	SEL	4.16	33	7.56
15.	RPL	720.86	5,889	7.34
16.	UBC	4,124.03	16,864	14.67
17.	U.Vic	3,740.10	20,796	10.79
18.	SFU	2,779.00	20,911	7.97
19.	VCC	1,104.58	7,215	9.19
20.	BCIT	1,618.33	11,070	8.77
21	DOC	1,142.11	6,532	10.49
		17,522.88 HR.	104,939 Titles	
TOTALS		1,051,372.80 MIN.		

10.02 Min. Avg. per Title

B.C. Union Catalogue Member Libraries Estimated Current Cataloguing Workload
1979/80

		Estimated Titles
1.	British Columbia Institute of Technology	10,000
2.	Camosun College	3,000
3.	Capilano College	5,000
4.	Cariboo College	6,000
5.	Douglas College	6,000
6.	East Kootenay College	6,000
7.	Fraser Valley College	6,000
8.	Justice Institute	3,000
9.	Malaspina College	5,000
10.	College of New Caledonia	6,000
11.	Northern Lights College	3,000
12.	Northwest College	3,000
13.	Okanagan College	7,000
14.	David Thompson University Centre	2,000
15.	Selkirk College	4,000
16.	Vancouver Community College	10,000
17.	University of British Columbia	60,000
18.	University of Victoria	25,000
19.	Simon Fraser University	25,000
20.	Richmond Public Library	10,000
21.	Burnaby Public Library	10,000
22.	Legislative Library	5,000
23.	Special Libraries, Inc. (incld. PVI;OLI)	10,000
		230,000 Titles

BCUC 1979/80 Workload and File Growth

A. Bibliographic Record File Size April 1979: 718,000

B. Current Cataloguing Workload 1979/80 : 230,000

C. RECON Workload 1979/80 : 120,000

D. Total File Size March 31, 1980 : 1,068,000 Bibl. Records

E. Plus 120,000 Authority Records

F. Total BCUC Data Base March 31, 1980 : 1,188,000 Records

University of Toronto

Library Automation Systems

12 December 1979

Mr. Paul Baldwin
Director
BCUC Project Office
7671 Alderbridge Way
Richmond, B.C.

Dear Paul,

As usual, your questions and suggestions have provoked serious planning and decision making at UTLAS. I will attempt to summarize our conclusions below so that the cost estimates you intend to include in the BCUC replication study may reflect accurate estimates of the costs of using the UTLAS authorities facility. As I understand it you are planning to do three estimates and I have divided the letter into three parts.

ESIMATE #1

Costs to SHARAF members which will be covered by the monthly SHARAF maintenance fee (which is charged in addition to the one-time yearly fee charged to regular members).

It is agreed that this monthly fee shall cover the following costs, according to SHARAF documents:

1. Deputy SHARAF Costs
2. Part of Travel Costs of Standards and Procedures Committee
3. Storage Costs of the SHARAF file.

It is point 3 that requires clarification from UTLAS. The SHARAF Data base, which will soon include the LC subjects file will be treated by UTLAS as a source file, and will be kept in active storage at all times for validation, display and linking. There will be no charge for this permanent active availability. However, unlike other source files, the SHARAF records may be edited, deleted, etc. by SHARAF members. Whenever a SHARAF record is edited or deleted by a member or Deputy SHARAF it goes into a special working file at UTLAS for the week during which the editing took place and one week thereafter. UTLAS will charge active storage for these "working records" only. For example, if 1,000 SHARAF records are touched and refiled in a week, the charge for active storage would be 10.00 or 0.01 per record per week. Thus only records that are actively being edited will be charged for active storage.

130 St George Street Room 8003 Toronto Ontario Canada M5S 1A5 Telephone 416/978 7171 Telex 065 24479
33 East Tupper Street Buffalo New York 14203 USA

ESTIMATE #2

The costs and procedures for Data base walks linking retrospective client files to the authorities system.

UTLAS will undertake to do data base walks for interested clients at no charge, providing the process is scheduled by UTLAS, and without special time constraints. It will be done on a library-by-library basis. It is estimated that each library will require 3-5 months for completion of the process, but it is possible that some could be done concurrently.

UTLAS agrees that the most efficient way to proceed on such a data base walk would be:

1. Begin at a certain date to link a client's file gradually to the authorities system.
   a. all headings would be linked, or a mini authority record created
   b. no edit lists will be produced

2. The client need not begin full implementation of on-line authority work at the same time the data base walk begins, if the burden of creating original authority records for all un-matched current cataloguing is seen as too great. The client will be notified by UTLAS when 75% of his file has been linked to the authority system, including recent current cataloguing, and from that date he then must begin to create ORIG authority records on a regular basis. The data base walk will not be open-ended, but may be extended according to client requirements to accommodate current cataloguing for a limited time.

3. At regularly scheduled intervals UTLAS will produce an "Authorities Only" COM product which will contain all authority records currently in the system including the mini-records generated by data base walks. Clients may use this list to clean up their linkage structures after the data base walks have been completed. The authorities only COM will be divided into two parts, Names (will include series) and topical Subjects. The exact scheduling of this product has not yet been determined due to lack of finalized client plans for data base walks, but one COM will be run in March-April 1980.

4. The creation of browsable index entries for a client's retrospective data base is an entirely different process from the data base walk which links a client's records to the authorities facility. UTLAS cannot consider at this time creating retrospective browsable indexing at the same time as authorities data base walks are done as a single process. However, users of the authorities system should keep the following facts in mind:

   a. the entire retrospective source files are currently being browsed by UTLAS. All BCUC users as linked file participants who have derived from source records, or from BC users who derived from source records, will automatically have browsable access to their records which are linked to source. For BCUC members retro indexing of source records will provide browsable access to a very large percentage of the BCUC database.

b. All users who are linking bibliographic records to authority records will have browsable access to all records which are linked to authority records because the authority records have been browsed. The only field which will not have browsable access will be 245 (title) as this is not a field which links to authority records. But all names, series and subjects headings will be browsable.

A search by author or subject heading will retrieve the linked authority records. A second search by linked ASN will retrieve all bibliographic records linked to that ASN. Plans are being made to allow only authority records to be retrieved while using the browsable searching in an authorities account. That is, authority records will be separately browsable.

c. UTLAS has made plans to provide full retrospective indexing for all clients who are participating in the New File Architecture. Current cataloguing will be fully browsed starting in January 1980, and retrospective files will be browsed on a regular schedule and linked to the ORIG file after the browsing of source files is complete.

5. The idea that clean-up of client linkage structures after a data base walk could be done centrally by Deputy SHARAFs for all SHARAF members seems quite reasonable if the members could agree on common standards and procedures. This process would involve isolating duplicate mini-records and re-linking these variations to one selected authority record.

ESTIMATE # 3

Cost of current cataloguing using the UTLAS authorities facility.

There are 3 charges associated with using the UTLAS authorities facility as outlined in the schedule of charges:

0.05 per record validated
0.003 per heading retrieved when a product is run
0.02 per authority cross reference printed in a product

The product charges are easy to calculate if one figures 3.25-3.50 headings per bibliographic record and 0.2 cross references generated per record. One must also remember that these charges apply each time a product is run and are therefore cumulative.

The difficult thing to estimate is the number of headings in a bibliographic record which will get hits right away and, consequently the number of original authority records which must be created and the additional on-line time and system charges which will be incurred as a result.

There are several factors which will make it difficult to estimate these charges for 1980/81 for SHARAF members.

1. For all SHARAF members there will be no additional system costs to create ORIG authority records until June 30, 1980 and the offer of free connect time for this purpose has been extended until September 1980.

2. If hit rate on the authorities data base is estimated currently, it does not take into account the much larger number of records which may be available by say July 1980.

3. If some clients elect to do data base walks during 1980 and are using the extended data base walk option outlined above, they will not be incurring any costs for creation of original authority records during current cataloguing as this will not take place until the data base walk is 75% completed.

All of the above are slightly overlapping and contradictory. To make an estimate assuming full UTLAS charges (after September 1980) but yet assuming current December 1979 hit rate seems quite unfair.

UTLAS recommends the following procedures for estimating costs of current cataloguing using authorities.

1. Since plans for other SHARAF members are not complete, it would be more reasonable to confine your estimates to BCUC only.

2. Use the time frame April 1980-April 1981.

3. Assume data base walks with continuing option. i.e. no BCUC library will have to create ORIG authority records until 75% of their retrospective file has been browsed.

4. Assume current validation implementation starts for BCUC in June 1980 and the first data base walks may begin at this time.

5. Assume current cataloguing and creation of ORIG authority records starts for the first library September 1980, and a new library every two months thereafter.

6. Assume any hit rate for current records for any library after 75% of data base walk is finished will be 70%.

7. Assume 3.5 headings per record.

8. Assume centralization of clean up in the BCUC project office.

9. Assume clean up starts after completion of first data base walk, October 1980.

10. Assume $2,200 + fiche costs = $2,500 for cost of authorities only COM to be used for clean up after Data base walks.

11. Assume 250,000 current catalogue records created by BCUC members in 1980/81.

12. Assume one new ORIG authority record created for every bibliographic record validated after data base walks are finished.

13. Assume three minutes connect time per ORIG authority record plus one file command.

14. Assume no on-line searching of non validated headings in bibliographic records. If a heading does not make a match, it should be searched off line in the authorities only COM.

15. If a derived bibliographic record being catalogued does not obtain full validation on all headings it should be cancelled and re processed after the missing ORIG authority records have been filed. This saves two file commands for each bibliographic record.

16. Original bibliographic records should be searched off line in the authorities COM and on-line if necessary before entry to be sure that all required authority records are present before the ORIG record is filed.

The final concern of the BC Union Catalogue project has been the actual plans for implementation of the authorities facility of UTLAS for all client libraries. The following plan of action has been discussed and hereby confirmed.

1. UTLAS will not ask BCUC to undertake the role of pilot project for implementation of the data base walk facility. We realize the extra burden placed of BC because of testing the Batch CATSS facility and wish to avoid a repetition of this experience.

2. A client library closer to Toronto with a smaller file will be selected for testing the Data Base Walk process.

3. As no client plans for full implementation of authorities and data base walks have been finalized with starting dates earlier than

March 1980, the Marketing Department cannot allocate a full-time position to authorities implementation until March 1980. At that time however, one representative will be given full-time responsibility for project management of data base walks and implementation of authorities for current cataloguing.

4. The successful implementation of one of the largest libraries in Canada (the University of Alberta) with full use of the authorities facility is seen as a critically sized project placing inordinately large demands on UTLAS support facilities. As a result Paula Lederman, Special Consultant in the Marketing Department will be offered to U. of Alberta as a project manager to oversee the implementation of CATSS at the University of Alberta. U of A will also have a regular client representative in the Marketing Department. The retrospective data base walk of a file of 300,000 bibliographic records is likely to have significant effect on the SHARAF file and UTLAS will make every effort to see that implementation of this very large project will run as smoothly as possible.

I hope that these answers to your questions will enable you to complete your estimate. We are looking forward to seeing the figures when the BCUC replication study is published in 1980.

With your permission we are circulating this letter to all SHARAF members as it is a good general summary of UTLAS planning for authorities in 1980.

Sincerely yours,

Joanna Rood

Joanna Rood
Client Representative

JR/ch

Enclosure

C-18

IBM Canada Ltd.

701 West Georgia St.
P.O. Box 10132
Vancouver, B.C. V7Y 1G1
(604) 665-5200

For Personal Contact

665-7152

November 26, 1979

Dr. R. Shoffner
Ringgold Management Systems, Inc.
C/O P.E. Baldwin
B.C. Union Catalogue
7671 Alderbridge Way
Richmond, B.C.
V6X 1Z9

Dear Ralph

As you requested, I have attached an IBM 4341 system configured to the specifications which you provided. The configuration includes the following:

a) a 4341 processor with four megabytes of memory

b) a system console

c) an 1100 lpm printer with ALA print train

d) a 600 lpm card reader

e) six spindles of 3370 DASD divided among two strings for performance. This is a total of over 3,400 megabytes of storage.

f) six 6250 bpi tape devices which operate at 470 KB per second. Two of these devices also operate at 1600 bpi.

g) 69 remote display terminals configurated as follows:
   - i. one ~~line~~ location with 14 displays
   - ii. twenty ~~lines~~ with two terminals each
   - iii. five ~~lines~~ with three terminals each

h) a communications controller which is configured to support 10 lines at 2,400 bps each.

Dr. R. Shoffner
Ringgold Management Systems, Inc.
Page 2
November 26, 1979

This configuration, of course, can be modified in many different ways depending on your requirements. Please contact me if you wish further information on any of these products.

Yours truly

R. Roy:lc
Marketing Representative
Data Processing Division
Attach.

cc: Mr. P.E. Baldwin - B.C. Union Catalogue
Mr. R. Campbell - B.C. Union Catalogue
Mr. D. Francis - B.C. Union Catalogue
Mr. D. Williams - B.C. Union Catalogue

```
SYSTEM CONFIGURATION
--------------------

UNIT MDL/FC            DESCRIPTION           QTY        MAC       PURCHASE        MMMC MONTHLY LEASE CHARGES
---- ------            -----------           ---        ---       --------        ---- ---------------------
                                                                                          MLC2
4341    L01 PROCESSOR                           1     9955.00     343475.00      630.00   8461.75
       1870 ADDIT'L BLOCK MULTI PLR CHANNE      1      599.00      20170.00        6.10    509.15
       2830 N/A                                 1        N/A           N/A          N/A       N/A
                                                     10554.00*    363645.00*     636.10*  8970.90*

         (PURCHASE OPTION - 60 PCT)
                                                                                          MLC2
3278    A02 DISPLAY CONSOLE-4300                1      104.00       3345.00       28.05     89.40
       4632 75 KEY OPER CONSOLE KYBD - I/O      1       41.00       1350.00        7.95     34.85
                                                       145.00*      4695.00*      36.00*   123.25*

         (PURCHASE OPTION - 55 PCT)
                                                                                          MLC2
3203    005 PRINTER-                            1     1950.00      47860.00      416.15   1657.50
                                                      1950.00*     47860.00*     416.15*  1657.50*

         (PURCHASE OPTION - 40 PCT)

2501    B01 CARD READER                         1      419.00      18075.00       79.00
                                                       419.00*     18075.00*      79.00*

         (PURCHASE OPTION - 40 PCT)

1416    001 INTERCHANGE TRAIN CARTRIDGE         1      135.00       3205.00        T+M
                                                       135.00*      3205.00*        .00*

         (PURCHASE OPTION - 55 PCT)
                                                                                          MLC2
3370    A01 DASD                                1     1335.00      43840.00      147.00   1134.75
                                                      1335.00*     43840.00*     147.00*  1134.75*

         (PURCHASE OPTION - 60 PCT)
                                                                                          MLC2
3370    B01 DASD                                2     1776.00      58450.00      220.00   1509.60
                                                      1776.00*     58450.00*     220.00*  1509.60*

         (PURCHASE OPTION - 60 PCT)
                                                                                          MLC2
3370    A01 DASD                                1     1335.00      43840.00      147.00   1134.75
                                                      1335.00*     43840.00*     147.00*  1134.75*

         (PURCHASE OPTION - 60 PCT)
                                                                                          MLC2
3370    B01 DASD                                2     1776.00      58450.00      220.00   1509.60
                                                      1776.00*     58450.00*     220.00*  1509.60*

         (PURCHASE OPTION - 60 PCT)
```

```
                                                                                   MLC2
3880     001 STORAGE CONTROL FACILITY          1   2145.00      77875.00      196.00   1823.25
         8170 2 CHANNEL SWITCH PAIR            1    222.00       8055.00       12.25    188.70
                                                   2367.00*     85930.00*     208.25*  2011.95*
            (PURCHASE OPTION - 60 PCT)

                                                                                   MLC1        MLC2
3420     004 MAGNETIC TAPE UNIT                4   3132.00     109880.00      356.00   2881.44     2630.88
         6420 6250 DENSITY MDLS 4 6 8 ONLY     4    320.00      11680.00      158.60    294.40      268.80
                                                   3452.00*    121560.00*     514.60*  3175.84*    2899.68*
            (PURCHASE OPTION - 55 PCT)

                                                                                   MLC1        MLC2
3420     004 MAGNETIC TAPE UNIT                2   1566.00      54940.00      178.00   1440.72     1315.44
         6425 6250/1600 BPI MDLS 4 6 8 ONL     2    224.00       8040.00       95.60    206.08      188.16
                                                   1790.00*     62980.00*     273.60*  1646.80*    1503.60*
            (PURCHASE OPTION - 55 PCT)

                                                                                   MLC1        MLC2
3803     002 TAPE CONTROL                      1   1475.00      49315.00      195.00   1357.00     1239.00
         8100 2 CHANNEL SWITCH                 1    222.00       6770.00        7.35    204.24      186.48
                                                   1697.00*     56085.00*     202.35*  1561.24*    1425.48*
            (PURCHASE OPTION - 55 PCT)


            TOTALS                                28731.00*    468615.00*    3100.05*


            MONTHLY LEASE CHARGE 1 YEAR TOTAL             6383.88*
            MONTHLY LEASE CHARGE 2 YEARS TOTAL           23881.06*

        TOTAL SYSTEM MINIMUM MONTHLY CHARGE:             24435.06*
        THE TOTAL SYSTEM MINIMUM MONTHLY CHARGE
        EXCLUDES SINGLE USE CHARGES AND PURCHASE
        ONLY MACHINES.  THE TOTAL SYSTEM CHARGE IS
        CALCULATED BY TOTALLING THE LOWER OF
        EITHER THE MRC OR THE MINIMUM MLC FOR EACH
        MACHINE.

THE PRICES STATED ARE FOR YOUR INFORMATION ONLY AND ARE
SUBJECT TO CHANGE.  APPLICABLE TAXES ARE NOT SHOWN.
PURCHASE OF IBM MACHINES WILL BE BY AGREEMENT SUBSEQUENTLY
SIGNED BY THE PURCHASER AND IBM, WITH THE PRICES GOVERNED BY
THE PRICE PROTECTION PROVISIONS THEREIN.  RENTAL OF IBM
MACHINES WILL BE BY AGREEMENT SIGNED BY THE CUSTOMER AND IBM.

NC   - NO CHARGE
N/A  - NOT AVAILABLE
TM   - TIME AND MATERIALS
```

```
B.  3705 COMMUNICATIONS CONTROLLER                               PAGE  1
    ------------------------------

       UNIT MDL/FC          DESCRIPTION            QTY    MAC       PURCHASE        MMMC MONTHLY LEASE CHARGES
       ---- ------          -----------            ---    ---       --------        ---- ---------------------
                                                                                                      MLC2
       3705     E01 COMMUNICATIONS CONTROLLER        1   1585.00     46355.00       325.00    1347.25
               1302 ATT BASE TYPE 2                  1     23.00       781.00          .55      19.55
               1301 ATT BASE TYPE 1                  1     23.00       781.00          .55      19.55
               1541 CHANNEL ADAPT TYPE 1             1    143.00      3370.00        17.90     121.55
               1642 COMM SCANNER TYPE 2              1    251.00      5935.00        17.90     213.35
               4701 LIB TYPE 1                       1     58.00      1380.00         5.80      49.30
               4714 LINE SET TYPE 1D                 5    265.00      6425.00        30.50     225.25
               4650 BUSINESS MACHINE CLOCK           1     14.00       516.00         1.50      11.90
                                                         2362.00*    65543.00*      399.70*   2007.70*
                    (PURCHASE OPTION - 60 PCT)

                    SYSTEM TOTALS                        2362.00*    65543.00*      399.70*

                    MONTHLY LEASE CHARGE 2 YEARS TOTAL          2007.70*

                TOTAL SYSTEM MINIMUM MONTHLY CHARGE:            2007.70*
```

For this configuration, IBM 3081 models have the following approximate value:

MAC/MRC	MLC2	PURCHASE	MMMC
1,420.00	1,200.00	$42,700.00	$320.00

```
C.  3270 CONFIGURATION - ONE LINE WITH FOURTEEN TERMINALS

     UNIT MPL/FC          DESCRIPTION             QTY       MAC       PURCHASE       MMMC MONTHLY LEASE CHARGES
                                                                                          MLC2
     3274     C01 CONTROL UNIT                      1     431.00     15190.00        91.00     666.35
             3701 EXT MOD ADAPTER                   1      14.00       478.00         5.30      11.90
             6302 COMM FEATURE NO BUS CL            1      14.00       537.00         3.35      11.90
             6901 TERM ADAPTER TYPE A1              1      40.00      1470.00         3.10      34.00
                                                          499.00*    17675.00*      102.75*    424.15*
                  (PURCHASE OPTION - 55 PCT)

                                                                                          MLC2
     3278     002 DISPLAY STATION                  14    1120.00     39760.00       216.30     952.00
             4621 75 KEY TYPWR                     14     224.00      8386.00        43.40     190.40
                  (PURCHASE OPTION - 55 PCT)             1344.00*    48146.00*      259.70*   1142.00*

                  SYSTEM TOTALS                          1843.00*    65821.00*      362.45*
                                                         -------     --------       ------

                  MONTHLY LEASE CHARGE 2 YEARS TOTAL           1566.55*

           TOTAL SYSTEM MINIMUM MONTHLY CHARGE:                1566.55*
```

9. 3270 CONFIGURATION - TWENTY LINES WITH TWO TERMINALS EACH

UNIT	MDL/FC	DESCRIPTION	QTY	MAC	PURCHASE	MMMC	MONTHLY LEASE CHARGES
							MLC2
3276	002	CONTROL UNIT DISPLAY STA	20	4520.00	159200.00	854.00	3842.00
	3255	TERM ADAPTER #1	20	380.00	15260.00	37.00	323.00
	3701	EXT MOD INTERFACE	20	280.00	9560.00	106.00	238.00
	4621	75 KEY TPWR KYBD	20	320.00	11980.00	62.00	272.00
	6302	COMM FEATURE WO BUS CL	20	280.00	10740.00	67.00	238.00
				5780.00*	206740.00*	1126.00*	4913.00*
		(PURCHASE OPTION - 55 PCT)					
							MLC2
3278	002	DISPLAY STATION	20	1600.00	56800.00	309.00	1360.00
	4621	75 KEY TYPWR	20	320.00	11980.00	62.00	272.00
		(PURCHASE OPTION - 55 PCT)		1920.00*	68780.00*	371.00*	1632.00*
		TOTALS		7700.00*	275520.00*	1497.00*	6545.00
							MLC2
3287		Printer model 2	1	263.00	7636.00	73.80	223.55

E. 3270 CONFIGURATION - FIVE LINES OF THREE TERMINALS EACH

UNIT	MDL/FC	DESCRIPTION	QTY	MAC	PURCHASE	MMMC	MONTHLY LEASE CHARGES
							MLC2
3276	002	CONTROL UNIT DISPLAY STA	5	1130.00	39800.00	213.50	960.50
	3255	TERM ADAPTER #1	5	95.00	3815.00	9.25	80.75
	3701	EXT MOD INTERFACE	5	70.00	2340.00	26.50	59.50
	4621	75 KEY TPWR KYBD	5	80.00	2995.00	15.50	68.00
	6302	COMM FEATURE WO BUS CL	5	70.00	2685.00	16.75	59.50
				1445.00*	51685.00*	281.50*	1228.25*
		(PURCHASE OPTION - 55 PCT)					
							MLC2
3278	002	DISPLAY STATION	10	800.00	28400.00	154.50	680.00
	4621	75 KEY TYPWR	10	1600.00	5990.00	31.00	136.00
				2400.00*	34390.00*	185.50*	816.00*
		(PURCHASE OPTION - 55 PCT)					
		TOTALS		2405.00*	86075.00*	467.00*	2044.25

TELEPHONE LINE AND MODEM COSTS
BC LIBRARY NETWORK

Source: Letter from L.D. Gaylor, B. C. Tel. Co., 11/29/1979

CATALOGING ONLY

Modification:
Circuit #1
remove
4 connections for

	UBC	Install
	(900)	(276)
Circuit #2		
U. Vic		
remove 3	(675)	(207)
SFU		
remove 2	(450)	(138)

Multicom remove circuit for
BCUC
(585)
(558)

DR Access 4800 BPS

Net		Day	
Circuit 1	2250	1480	690
Circuit 2	1575	372	482
		(2400 baud)	
Multicom		1560	1024
Total per month		7237	

Usage
= 1.34 x 60 x 176 x 0.5
= 50% density 7075

Total per month $14,312.20

program $172,000

Installation $2196

FULL SYSTEM

Modification: Add to the cataloging costs (left column):

UBC	225		69
U. Vic.	225	186	69
SFU	225		69

Net			
	2475	1480	759
	2025	558	620
Multicom		1560	

Usage
@ 100% density 14,150
$22,248

$267,000

$2403

Modems and lines are included in the monthly charges.
Other modems may not be substituted in Data route services.

The Computer Communications Group

British Columbia Telephone Company
3777 Kingsway
Burnaby, Canada V5H 3Z7
Phone (604) 432 2151
TWX 610 922 6044

1979 11 29

Ralph M. Shoffner
Vice President
Ringgold Management Systems
Box 368
Beaverton, Oregon 97075
UNITED STATES

Dear Mr. Shoffner:

We recently discussed methods of connecting Colleges, Universities, and Libraries within British Columbia to the B. C. Union Catalogue Project in Richmond, B. C.

The most cost effective form of communication is a mix of Dataroute at 4800 BPS and MULTICOM 1 at 2400 BPS. As you can see from the attached information, it will be easy for you to price out additional circuits by simply adding $225.00 per additional access arrangement required and by limiting the terminals per circuit to under fifteen.

We look forward to working with you to develop and implement a system for the B. C. Union Catalogue Project. Should you require any additional information, please do not hesitate to call me at 432-4745.

Yours truly,

L. D. Gaylor
Sales Representative

LDG/clk
Enclosures.

cc - P. Baldwin

B.C. Tel, part of
Trans-Canada Telephone System

CATALOGUING

CIRCUIT #1 DATAROUTE

Terminals	DR Access ARR	4800 BPS Day Usage	Install
BCIT - Burnaby - 1	$ 225.00/mth		$ 69.00
Camosun - Victoria - 1	$ 225.00/mth	$ 186.00/mth	$ 69.00
Capilano - North Vancouver - 1	$ 225.00/mth		$ 69.00
Cariboo - Kamloops - 1	$ 225.00/mth	$ 445.00/mth	$ 69.00
Douglas - Richmond - 1	$ 225.00/mth		$ 69.00
Justice Institute - Vancouver - 1	$ 225.00/mth		$ 69.00
New Caledonia - Prince George - 1	$ 225.00/mth	$ 849.00/mth	$ 69.00
Vancouver Community College - Vancouver - 1	$ 225.00/mth		$ 69.00
U.B.C. - Vancouver - 1	$ 225.00/mth		$ 69.00
BCUC - RICHMOND - 1 Port	$ 225.00/mth		$ 69.00
	$2250.00/mth	+ $1480.00/mth	$ 690.00

CIRCUIT #1 MONTHLY TOTAL $3730.00/mth

CIRCUIT #2 DATAROUTE

Terminals	DR Access ARR	4800 BPS Day	Install
University of Victoria - Victoria - 4	$ 225.00/mth	$ 186.00/mth	$ 69.00
S.F.U. - Burnaby - 3	$ 225.00/mth		$ 69.00
Burnaby Public Library - Burnaby - 1	$ 225.00/mth		$ 69.00
Legislative Library - Victoria - 1	$ 225.00/mth	$ 186.00/mth	$ 69.00
Richmond Public Library - Richmond - 1	$ 225.00/mth		$ 69.00
Special Libs. Cat. Inq. - North Vancouver - 1	$ 225.00/mth		$ 69.00
BCUC - Richmond - 1 Port	$ 225.00/mth		$ 69.00
	$1575.00/mth	+ $ 372.00/mth	$ 483.00

CIRCUIT #2 MONTHLY TOTAL $1947.00/mth

MULTICOM 1

Terminal	Usage	Multicom 1 Access & Modem 2400 BPS	Install
East Kootenay - Cranbrook - 1	16¢ min	$ 195.00/mth	$ 128.00
Fraser Valley - Abbotsford - 1	14¢ min	195.00/mth	128.00
Malaspina - Nanaimo - 1	14¢ min	195.00/mth	128.00
Northern Lights - Dawson Creek - 1	22¢ min	195.00/mth	128.00
Northwest Community - Terrace - 1	22¢ min	195.00/mth	128.00
Okanagan - Kelowna - 1	14¢ min	195.00/mth	128.00
David Thompson - Nelson - 1	16¢ min	195.00/mth	128.00
Selkirk - Castlegar - 1	16¢ min	195.00/mth	128.00
		$1560.00/mth	$1024.00

Multicom 1 Monthly Rental $1560.00/mth + Usage

Total Monthly Rental - Multicom 1 + Dataroute:

= $10,405.00/mth + Usage

TOTAL INSTALL $2197.00

NATIONAL LIBRARY OF AUSTRALIA
TELEGRAM IN RESPONSE TO
REPLICATION OF WASHINGTON LIBRARY NETWORK
QUESTION CHECKLIST

Please send response to: Dr. Ralph M. Shoffner
Ringgold Management Systems
P.O. Box 368
Beaverton, OR 97075

Date:

Response by: Name
Position
Telephone

HOW LONG WORKING WITH WLN SOFTWARE?

Have been working with WLN software for seven months.

IMPLEMENTATION SCHEDULE: ON SCHEDULE?

System has been under evaluation for last seven months, implementation of system in full production mode about to commence. Schedule for installation of software was originally four (4) weeks. Had probably 90 percent of software available in that time scale. Overrun of some 2 weeks because of differences in CICS systems. Some parts of software still not useable--can explain on telephone.

STAFF EFFORT NEEDED

Have had up to 10 people working on system: 3 librarians, 2 systems programmers, 4 applications programmers, 1 management--not all full time.

SPECIAL SKILLS NEEDED

Need: librarian skills particularly in use of LC MARC format; ADABAS or other DBMS skills; CICS expertise; PL/I and assembler programming experience.

STAFF'S PREVIOUS EXPERIENCE: LIBRARY SYSTEMS

Staff previously had good experience in installation and development of library systems.

TELEPROCESSING MONITORS

Good experience in CICS TP monitor

DATA BASE MANAGERS

No real experience with DBMS, particularly ADABAS: have felt lack in this area.

SUPPLEMENTARY TRAINING: HOW MUCH?

WHAT AREAS?

Librarians have received supplementary training from WLN consultant. Visit to WLN in Washington by programmers from NLA is planned. Believe this to be vital to support of software and should be undertaken if possible before attempt is made to implement software.

WHICH WLN SYSTEMS AND PROGRAMS INSTALLED?

All of the on-line system facilitites as available at December 78 are installed and working. All bibliographic sub-system batch programs have been tested satisfactorily.

WHICH WLN SYSTEMS AND PROGRAMS REMAINING?

Acquisitions sub-system's batch programs are yet to work successfully. Problems here are considered minor--NLA has not concentrated on the acquisitions sub-system to date.

SYSTEMS IN OPERATIONAL USE IN NLA

The bibliographic sub-system is being used operationally within the library for reference and verification work. Full implementation of WLN at NLA currently being planned.

SYSTEMS USE PLANNED BY OTHER LIBRARIES

Anticipate that system will be used by other libraries. Use of the system by other library as part of a pilot study planned for near future.

SCHEDULE FOR OTHER LIBRARIES

Schedule for regular use of WLN system by other libraries has not yet been seriously considered.

WORK TO USE IBM 3270s COMPLETED?

Full IBM 3270 support is not available at WLN at NLA.

OTHER INSTITUTIONS OBTAIN THE MODIFICATIONS

Anticipate that this facility will be made available to other users of WLN software.

WHAT TERMS TO OBTAIN?

The mechanics of providing other users with full 3270 support and the terms of usage have not yet been considered.

MODIFICATIONS/ENHANCEMENTS PLANNED OR IN PROGRESS

No other major modifications/enhancements planned for near future. NLA may undertake to make acquisitions batch programs OS/VSI compatible if WLN cannot undertake this task in an acceptable timescale.

TO BE MADE AVAILABLE.

N.A.

NLA TECHNICAL STAFF AVAILABLE TO OTHER LIBRARIES

Due to staff restrictions and heavy work programme regret cannot make NLA staff available to other users of WLN software in near future.

TERMS TO SUPPLY

N.A.

Call on Tuesday, October 30 best made to Chris Hannan.

Chris Hannan Team Leader WLN Project Group National Library of Australia,
Canberra ACT 2600 Australia

Collect - 062-621-480-2600

C-33

RINGGOLD MANAGEMENT SYSTEMS
A DIVISION OF THE RINGGOLD CORPORATION

BOX 368 BEAVERTON OREGON 97075
503 645-3502

October 12, 1979

Dr. Arthur Ellis
Assistant Director - General
Networks and Co-Ordination
National Library of Australia
Canberra ACT 2600 Australia

Dear Dr. Ellis:

Ringgold Management Systems has been commissioned by the British Columbia Union Catalogue Project to study the economic feasibility of replicating the Washington Library Network System in the province of British Columbia. Because the National Library of Australia is the only institution to have done such a replication we wish to ask you some questions. We appreciate your assistance and thank you for it.

How long have you been working with the WLN software? What has been your implementation schedule? Have you been able to adhere to that schedule? How much staff effort has been needed? What special skills have you needed among your staff members?

What has been the staff's previous experience in implementing: library computer systems? teleprocessing monitors? data base managers? How much supplementary training did the staff receive? In what areas?

Which WLN systems and programs have been installed? Which remain to be installed? Are the systems in use by the NLA technical processing staff? Will the system be used by other libraries? Is there a schedule for these other libraries?

We understand that your technical staff has done development work so that IBM 3270 or equivalent terminals may be used with the WLN software. Is that work completed and tested? Can other installations with the WLN software obtain copies of the modifications? If yes, how and under what terms? Please describe any other modifications or enhancements planned, in progress, or completed. Would they also be made available?

Would any NLA technical staff be available to visit another WLN installation to assist in implementation of the WLN software? If yes, under what terms?

Enclosed is a check list of the above questions. The check list may be valuable in assembling the answers to the questions. If possible, we would like to have your response by Friday, October 26.

In addition to the answers to these questions, we would like to call and discuss the system with some person who has been closely involved in the transfer of the system. We will call you on Tuesday, October 30 to request a referral to someone with whom to discuss the system.

In closing, thank you very much for your attention and aid.

Sincerely,
Ralph M. Shoffner
Ralph M. Shoffner
Vice President

Enclosure

NATIONAL LIBRARY OF AUSTRALIA

Replicaton of Washington Library Network

Question Checklist

Please send response to: Dr. Ralph M. Shoffner
Ringgold Management Systems
P.O. Box 368
Beaverton, OR 97075

Date:

Response by: Name
Position
Telephone

How long working with WLN software?

Implemenation Schedule:
- On Schedule?
- Staff effort needed
- Special skills needed

Staff's previous experience:
- Library systems
- Teleprocessing monitors
- Data base managers
- Supplementary training
  - How much?
  - What areas?

Which WLN systems and programs installed?

Which WLN systems and programs remaining?

Systems in operational use in NLA

Systems use planned by other libraries

Schedule for other libraries

Work to use IBM 3270s completed?

Other institutions obtain the modifications

What terms to obtain?

Modifications/enhancements planned or in progress
- To be made available

NLA technical staff available to other libraries
- Terms to supply

APPENDIX D

BCUC Governance and Management:

a Background Paper for the BCUC Replication Study.

Prepared by Paul E. Baldwin
Director, BCUC

November 1979

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Executive Summary

This background paper explores the management and governance issues which will be posed for BCUC if it replicates an on-line computer system of the WLN-type. An examination of case studies of library networks indicates that there is need to provide for the user library stakeholders to share in the management of the on-line bibliographic utilities via what librarians define as a "governance structure".

In the United States the management and governance of bibliographic utilities and library networks have usually been vested in stand alone, non-profit corportations. In Canada the management of bibliographic utilities has usually been vested in an institution whose mission is tangential to that of the library network. Library network governance in both the U.S. and Canada has been provided via an advisory committee structure which has representation on a Board of Directors or Governors.

In proceeding with the replication of a WLN-type facility BCUC will need to broaden its mandate and also its goals and objectives. A replicated WLN-type facility can be accommodated within the present BCUC Central management structure if special attention is given to a formal way to plug the BCUC library network "governance structure" into its "management structure". It is suggested that this would best be done through the establishment of an interlocking Board of Directors.

On Library Networks:

> "In building a library network we partake in a venture deeply committed to the task of improving information flow."
>
> "In general, library networks would do well and count themselves successful if they could implement by using well proven and mature pieces of technology, well-cushioned to follow in the path toward integration and synthesis."
>
> "Technology presents us with a maze of paths and possibilities that could be tried. Yet there is not time, not money, not people enough to follow even a fraction of these paths to the end... Progress is made by moving down paths, not standing on the crossroads reading the signposts... strength lies in wisely delimiting complexity."

________William D. Mathews:
"The Impact of Technology on the Governance of Library Networks" (IN: The Structure and Governance of Library Networks, p. 134 ff.)

INTRODUCTION

The BC Union Catalogue is presently engaged in the BCUC Replication Study, which is examing the feasibility of establishing a library network computer facility in British Columbia via the strategy of system replication. The quotations on the previous page taken from William D. Mathews, Staff Associate for Information Technology of the U.S. National Commission on Libraries and Information Science, eloquently epitomizes the path down which BCUC is choosing to tred. A year ago BCUC Members were standing at a crossroads in the BCUC development and were anxiously scanning the signposts. One year later, the first steps down the path suggested by Mr. Mathews have been taken via the establishment of the BCUC Replication Study.

BCUC has elected to build upon the best work of other library networks; rather than engaging in the risky and costly efforts of system design and development. The BCUC Replication Study (SEE Appendix D-A, for a summary of the Scope of the Study) is an action study. The BCUC Management Committee specifically decided to stay away from doing an abstract piece of academic research. The study selected by the BCUC Management Committee was the examination of the feasibility of replicating a specific and proven library network computer system: the Washington Library Network Computer System and Data Base which has been in regular operation since July 1977. The proposed system replication by BCUC is basically a process of integrating and synthesizing the successful work accomplished in the state of Washington by the State Library with the experience and work that BCUC has accomplished in its use of the library network system operated by the University of Toronto Library Automation Systems, since September 1977.

This strategy will permit BCUC to put together within a reasonable time frame a menu of services and programs which will meet

Introduction cont'd.

the increasing information needs of B.C. libraries and their users, the citizens of British Columbia. BCUC programs mounted in the context of an on-line computer system services will help make it more possible to equalize the access to information between the information rich and the information poor in British Columbia.

This contemplated technical change in BCUC has ramifications for the present governance and management structures of BCUC. This background paper was written to provide BCUC Members and other interested parties with information about the issues of library network governance and management which have been confronted elsewhere in North America. These issues are planned to be dealt with explicity in the BCUC Replication Study.

The Study's Scope Document specifies that recommendations be made concerning BCUC governance and management in Design Phase 2, Part 1: "Implementation Substudy on User and Data Base Requirements." Its last specified task, #E., details the following requirement:

> E. "Develop proposals for governance changes to the BCUC operation with the establishment of a B.C. WLN-type computer system, considering types of libraries, institutional limitations of the management contract for the BCUC Office, multiple Provincial Ministries, and any other factors impinging on governance."

This paper is meant to provide the following information:

Introduction cont'd.

1. Definitions of the terms used in the library networking vocabulary.
2. Specific case studies which demonstrate the issues of governance, management, and finance as they have been dealt with by North American library networks.
3. Examination of BCUC governance and management as it presently stands, together with a summary of requirements posed by the operation of an in-province library network system (an on-line bibliographic utility) run on a shared computing facility.

Definition of Library Networking

The term library networking has been so overused during the 1970's that it has become almost meaningless. That is, it has been used to denote so many things, one is never sure what is meant by those who use the term in their speech and writing. The term, "network", has been borrowed by librarians from communications theory. It came into vogue when libraries began to use on-line computer systems in the early 1970's. However, the term was also used in the 1960's as a synonym for library consortia and library co-operatives.

James H. Kennedy, the Executive Director for the AMIGOS Bibliographic Council, has stated that library networks are "organizations that have as their goal assistance to libraries" (1) and further that "networks are basically extensions of libraries and their systems and services." (2) This is consistent with the development of library consortia and co-operatives in the 1960's and the centering of such library organization types around on-line computer systems in the 1970's.

Definition of Library Networking cont'd.

Ervin J. Gaines, Director of the Cleveland Public Library, in debunking the inflated rhetoric that has plagued the use of the term, library networks, observed that:

> "The most useful function of most networks (in my observation) is the provision of access to bibliographic information plus access to the document itself. Other services provided by regional networks appear to me to be marginal or dubious value." (3)

In their exhaustive survey of library networks, Williams and Flynn (faculty members of the University of Pittsburgh, Interdisciplinary Department of Information Service) collected a list of library network functions from a questionaire which library network offices filled-out for the survey. Twenty-one functions were identified, which included such things as: inter-library loans; union lists and union catalogues; bibliographic access; delivery of documents; storage of little used materials combined with last copy preservation; shared cataloguing and cataloguing support; acquisitions; collections development; continuing education, etc. (4) Joseph Becker, President of Becker and Hayes, Inc., a library consulting firm, commented on the Williams and Flynn list of library network functions, pointing out that: "most of the functions on the list are traditional library functions cast in a cooperative context." (5)

The library network, then, is simply a new organizational form which uses on-line computer technology to help individual libraries improve the quality of library services which they can deliver. The term replaces, in usage, the earlier terms of library cooperatives and library consortia. The new organization centers around the use of a

Definition of Library Networking cont'd.

computer facility which increasingly is also referred to as a "bibliographic utility."

GOVERNANCE AND MANAGEMENT OF LIBRARY NETWORKS

As far as Webster's Dictionary is concerned, the two words, governance and management, are synonyms, except that governance deals more directly with the political sphere. As with the term "network", librarians have also given special meanings to the words governance and management when applying them in the context of library networks. William D. Mathews defines governance as "the set of process through which an organization confirms its goals, establishes policy, selects its leaders, and insures the necessary resources to carry out its purposes." (6) Montgomery and Dowlin add that "governance ... in the context of a library network, is concerned with the relationships among the participants and institutions," and further that "governance permits those using the running networks to express their interests and concerns, in short, to establish goals and objectives as well as the policies by which these goals and objectives are to be achieved." (7) They further suggest that management is to be distinguished from governance in that "management is concerned with operational decisions used to achieve organizational or network goals and objectives." (8) The most carefully thought out distinction between the two terms was presented in the report on OCLC governance: A New Governance Structure for OCLC: Principles and Recommendations. (November 1977) (p.19):

Functions of Library Network Management and Governance

	Management Responsibilities	Governance Responsibilities
	- Planning	- Review of plans, advisory technical input
	- Budgeting	- Budget approval
	- Control of Operations	- Hiring and firing of chief executive officer
	- Establishment of service and product policy	- Advisory review of service and product policy
	- Recommendation of basic policy	- Establishment and approval of basic policy
		- Review of operational plans and evaluation of results
		- - - - - - - - - - - - - - - - -
Governance representation and skills		- Representation of constituencies with a stake in the organization
		- Representation of public interests
		- Watchdog for particular interests
		- Provision of needed technical/managerial/financial skills

The OCLC report recommendations were made with the objective of achieving an appropriate balance of influence, power, and responsibilities between management and governance. Functions of governance below the dotted line indicate interests and skills which must be represented to varying degrees in the governance structure of a library network.

In the United States, the computer systems and services of library networks are predominately vested in non-profit, stand alone corporations. The major issue which has developed is how to provide governance structure for these corporations which looks after the interests of the libraries which use these facilities. In point of fact, the corporation model adopted by library networks in the 1970's was an invention to avoid the poor management and

Functions of Library Network Management and Governance cont'd.

jurisdictional problems of grant supported consortia and cooperatives of the 1960's. By charging fees for its services and products, the network utilities achieved good management via the the disciplines of the market place. However, the increasing popularity of the term "bibliographic utility" indicates that the market has not always been a free one. The Library network was never intended to be a vendor-buyer relationship. The reason is really quite simple: library networks or bibliographic utilities were created to serve a constituency of libraries who were banding together under the utility's umbrella to share resources, to share costs, and to share (thus minimize) the risks of library automation development. The objective was to create more and better information services which could be offered to citizens who use libraries. The services and products of these utilities impact (increasingly) all of the traditional services offered by libraries.

In Canada, the development of bibliographic utilities has taken quite a different path than the U.S.; but the issues of governance and management are surprisingly similar. In Canada, library network computer systems are owned and operated by institutions which have their own pre-established management and governance structures. The concerns of the using libraries are virtually the same: they have a stake in the organization because an increasing percentage of their operating budgets are tied-up in the utility. How do they influence priorities and services and policy in favor of their own interests?

In order to flesh-out the above remarks about library network and bibliographic utility governance and management issues, a number of case studies will next be reviewed.

Case Study 1: OCLC, Inc.

OCLC, Inc. began its life as a not-for-profit corporation named the Ohio College Library Center. It was initially established in 1967 upon the recommendations of a consultants' report to develop a union catalogue of college library holdings in the state of Ohio using the latest computer technology. In August 1971, the on-line OCLC Computer System was established. It immediately offered service to out-of-state libraries, who by 1975 overwhelmingly outnumbered the in-state users. In addition services were extended to all types of libraries, not just the Ohio college libraries. It may be said that from the begining, the OCLC Director, Fred Kilgore, had a much broader vision of the scope of OCLC's services and mission than was narrowly defined in the initial OCLC governance and articles of incorportation.

In December 1976, the Advisory Council appointed by the OCLC Board of Trustees, requested Arthur D. Little, Inc. to undertake a study and make recommendations concerning an expanded governance structure for OCLC. The result was a reorganization and a name change to OCLC. Inc. whose letters no longer were an acronym for the Ohio College Library Center.

In reviewing the options open to OCLC, A.D. Little, Inc. reviewed seven OCLC governance structure alternatives:

OCLC as:

1. a government agency
2. a quasi-official government corporation
3. a network cooperative
4. a user cooperative
5. a loosely-held, not-for-profit corporation
6. a tightly-held, not-for-profit corporation
7. a for-profit corporation

Case Study 1: OCLC, Inc. cont'd.

In order to select the appropriate governance structure, the study maintained that the decision should be based upon a proper understanding of the overall roles of OCLC and the required method of operating to achieve its organizational objectives and goals.

The report points out that OCLC's success depended largely upon balancing two simultaneous identities:

1. That of a pro bono organization, devoted to societal service objectives and governed in the interests of maintaining its pro bono identity; as such, it relies significantly on the cooperative drive of its users.

2. That of a private sector firm, utilizing the marketplace to connect to its customers and using its revenue-generating capacities, and its, ability to generate a surplus of revenues over costs, as a lever to secure capital for continuing expansion.

The report points out that these two identities are potentially in conflict. It reduced consideration of governance structures between two alternatives: a tightly-held not-for-profit corporation and a network cooperative. What was sought was a means to balance two requirements:

a. Commitment to OCLC, Inc.

The majority of the ultimate governing Board should have as primary motivation the survival and success of OCLC as an organization; these members should not be caught in a personal conflict between OCLC and network or library interests.

Case Study 1: OCLC, Inc. cont'd.

b. A realistic and significant level of participation by those dependent on OCLC.

Since the recommended members on the Board representing the network libraries was to be set at a minority of the Board Membership, it was felt by the study recommendations that the presence of possible internal personal conflicts between their roles as user representatives and as Board members could be accepted for the sake of representation.

The solution deliberately avoided placing OCLC into a political environment which would prevent or inhibit its ability to make rapid and flexible decision-making, or that works against the good management requirements of: financial stability, planning capacity, market research abilities, etc. Similarly, the study also rejected a model of governance which distributed power to all its users because this too would work against the business-related elements of OCLC management decision making and financial stability.

Library members of all organizations contracting with OCLC for services are defined as OCLC Members. Decision-making powers with regard to replacement of management, approval of all policy direction, budgets, and such, reside in a Board of Trustees. A Users' Council provides a formal institutional means for networks and other contractors of OCLC services to participate in policy making decisions that vitally affect them. Users' Council members are democratically elected by members within their respected networks. Thus the new governance structure represents an amalgamation of the two models selected by the study: tightly-held non-profit corporation and network cooperative.

The report also spends some space making a distinction between governance and management:

Case Study 1: OCLC, Inc. cont'd.

Governance

Governance is concerned with how the power relationships among various organizational stakeholders are structured and administered. The specifics vary if one is dealing with the governance of client-oriented, public-oriented, or member-oriented organizations. In all cases, however, a reference to power relationships among stakeholders is of key concern.

Management

Management, on the other hand, is concerned with the operational processes by which resources are obtained and used to accomplish organizational objectives. Its primary focus is action; that is, "getting things done through people". Organizational management is concerned with such matters as pricing, program and budget control structures.

The governance structure of an organization interacts with management to formulate its philosophical orientation, mission, and overall policies that affect delivery of goods and/or services to its clients.

Basic Functions of Governance (in OCLC context)

1. To provide overall policy, budgetary, and management oversight control (including the traditional functions of hiring and firing the Executive Director. In OCLC this function is vested in the Board of Trustees.

2. To provide guideline and guidance to management. This implies the presence on the Board of individuals knowledgeable in areas of

importance to OCLC: such as finance, law, user constituencies, computer technology, etc.

3. To provide a "watchdog" capability for the public's interest and/or the interests of key groups that depend upon OCLC (i.e., the users).

4. To facilitate obtaining financial support.

5. To provide for two-way communication links with the primary constituency.

6. To provide a focus for exercise of legitimate constituency power.

7. To provide for generation of suitable political support in case the organization is attacked - - as by a government regulatory agency or by a major lawsuit.

8. To lend public credibility to the organization.

The reorganization of OCLC achieves this through the expansion of its Board of Trustees and the creation of a Users' Council.

Case Study 2: RLIN Summary

The Research Libraries Information Network (RLIN) is a computerized, on-line bibliographic utility which is owned, operated, and managed by the non-profit corporation known as the Research Libraries Group, Inc. (acronym: RLG).

RLIN was originally developed under the earlier acronym of BALLOTS as an on-line technical processing support system for the libraries of Stanford University in 1972.

RLG purchased BALLOTS in October 1978 from Stanford University and renamed it RLIN. RLG membership stands as of September 1979 at eleven (11) U.S. research libraries. RLG members are share-holders of RLG and sit on its Boards of Directors and Governors. The management of RLIN reports to the President of RLG (Ed Shaw) and to the RLG Boards of Directors and Governors.

It should be noted that RLIN is operated as a bibliographic utility of RLG. RLIN priorities and activities are governed by RLG. RLIN is primarily meant to be used to support the cooperative programs of RLG and to provide support in meeting RLG's seven primary goals.

However, it should also be noted that over 90 U.S. libraries (largely concentrated in California) are currently purchasing services from RLIN. These libraries are not members of RLG and have no part in the governance of RLIN. These "user libraries" stand in a vendor relationship to RLIN just as BCUC libraries do to UTLAS. It is very likely that service to these non-RLG libraries will be sacrificed when and as necessary as RLG member libraries' needs take precedence in their demands on RLIN resources and services.

Case Study 2: RLIN Summary cont'd.

RLG has stated, however, that RLIN will continue to contribute to and to provide leadership in nationalizing an information network through cooperation. RLG/RLIN has signed agreements to cooperate with WLN and CLASS.

RLIN's primary raison d'être remains to serve the interests and needs of the research libraries who own and govern the corporation known as RLG. RLG probably has the best defined program of all the bibliographic utilities or library networks.

Re-Write of RLIN

Like UTLAS, RLIN is presently involved in a major system re-write which will result in a new data file architecture. RLIN will not be able to offer a full authorities control system, acquisitions support, and standard MARC records out on tape until these changes are made. RLIN is also weak in batch product services (except for catalogue cards); but this will change as part of the system re-write. The RLIN system is presently loaded onto and operated on the Stanford University computing facility. As such, it has all of the problems of a non-dedicated facility as are experienced by WLN, and would be experienced by BCUC in a replicated system loaded onto a shared computer facility.

RLG's Seven Goals

To understand RLIN, one must know the structure and programs of RLG, because only the programs and goals of RLG give RLIN its raison d' être. The present members of RLG are developing programs to meet seven primary goals:

Case Study 2: RLIN Summary

RLG's Seven Goals cont'd.

1. To provide the capacity for research universities, their libraries and major independent research libraries to work together to develop a system for providing information required in scholarly activities;

2. To provide the scholar with a sophisticated means of accessing bibliographic and other forms of information;

3. To provide large libraries with automated bibliographic control and with related management information;

4. To provide large libraries with a way to mitigate constantly increasing operating costs;

5. To promote, to develop, and, as necessary, to operate programs to coordinate collection development and to develop cooperative programs that conserve and preserve library materials;

6. To promote resource sharing among large libraries by operating, supporting, and coordinating cooperative programs that improve physical access to library collections; and

7. To create high-quality bibliographic and other informational data bases that are integral to the evolving national bibliographic data bases that serve the information needs of library patrons across the country.

Case Study 2: RLIN Summary cont'd.

RLG Philosophy

RLG is considered to be an institutional partnership which was founded in 1974 out of recognition that neither significant increases in library purchasing power nor reduction in demand for library services were probable in the near future and that an alternative to the heretofore dominant philosophy of institutional self-sufficiency was needed.

The distinctive characteristic of RLG has been its commitment to improve services and to reduce the rate of increase in operating costs by restructuring the fundamental policies, procedures, and service objectives of member libraries -- a commitment that has affected nearly every level of member library operations.

To these ends RLG has launched a number of programs:

RLG Programs

A. Shared Resources

This program supports shared access to the combined collections of its member institutions by providing a common set of access and reciprocal lending policies to ensure dependability and improved response time.

B. Collections Development

This program reviews costly items, less-used subjects, languages, and geographic areas - - as well as areas of heavy interest in the collections of RLG members - - to reduce duplication and/or to create collections in depth in identified areas.

Case Study 2: RLIN Summary

RLG Programs cont'd.

C. Preservation

This program provides information about new preservation technology, assistance with microfilming to standards, and additional funds to RLG members for preservation activity.

RLG Organization and Management

A. Board of Governors

One member appointed by each member institution. Meets at least quarterly to approve new members, to review the actions of the Board of Directors, officers, and committees, and to review programs and budgets. These people are university administrators, not librarians.

B. Board of Directors

Elected annually by the member librarians. Sixteen voting members and an *ex officio* officer, the RLG President. The principal purpose of the Board is to provide necessary continuity needed for management and operations. Responsible for establishing policies, procedures, programs, budgets and fees.

C. President of RLG

Is the chief operating officer and is elected by the Board of Directors. The President is responsible for proposing, developing, implementing, and operating all of RLG's activities. Edward E. Shaw was elected President of RLG in October 1978.

Case Study 2: RLIN Summary cont'd.

Management and Operations

A. Program Groups

These are drawn from the member institutions and those libraries which use RLIN. There currently are four at present time:

1. Committee on Collections Management and Development
2. Committee on Bibliographic Process and Control
3. Committee on Systems and Technology Applications
4. Coordinators

Most of these committees are structured to meet quarterly in an overseeing capacity with many of their activities conducted through short-lived, well-focused Task Forces.

B. RLG's Central Staff (65 FTE as of June 1979)

The RLG Central Staff are divided into eight divisions:

1. Program Coordination
2. Computer Systems
3. Library Systems Analysis
4. Library Service Operations
5. Library Coordination
6. Business and finance
7. Special Projects and Planning
8. Internetwork Relations

Case Study 2: RLIN Summary cont'd.

FUNDING

As of January 1979, RLG, Inc. has received commitments of $2,300,000 in grants from such foundations as Andrew W. Mellon and Alfred P. Sloan. As part of the effort to develop a sound, long-range fiscal base for RLG, the auditing firm of Peat, Marwick, Mitchell and Company were hired as consultants in 1979.

Fees are charged for the use of RLIN.

CASE STUDY 3: SOLINET SUMMARY

The Southeastern Library Network, Inc. is a stand alone, non-profit corporation which has its heaquarters in Atlanta, Georgia. It may be examined as a typical "network user group" which uses the services of OCLC, Inc. It was begun in the early 1970's via a report drawn-up by an Ad Hoc Committee of the Association of Southeastern Research Libraries. Primary leadership in the formation of SOLINET was provided by two libraries: Tulane University and Georgia Institute of Technology

A study was done in 1974 by John P. Kennedy and Elroy W. Eckhardt which recommended system replication of OCLC. Negotiations with Fred Kilgore were unsuccessful in getting replication underway. Instead SOLINET became a "broker" of OCLC services. In 1976, SOLINET conducted a study of BALLOTS, DOBIS, University of Chicago, and WLN Computer Systems which concluded that there was "no simple and economical way to import an existing system and convert SOLINET terminals and users to it."

In 1978, SOLINET issued its Long Range Plan which has a scope of five years: 1978-1983. It states that its members are generally satisfied with OCLC service and expect to continue to use it. SOLINET will attempt to link its members to other utilities (such as RLIN, WLN, and LC as well as OCLC) via usage of a minicomputer facility. The plan calls for storing its Members data records in the SOLINET facility and the provision of various on-line services from the SOLINET data facility. The first phase would be an on-line union catalogue, then an interlibrary loans system. Subject access would be initiated after 1982, along with an acquisitions system. This represents a very ambitious program of systems design and development.

Case Study 3: SOLINET Summary cont'd.

The basic assumption in current SOLINET planning is that "the best framework for providing continuous quality services for SOLINET members is a SOLINET-operated network among the members." And further that "the network would be controlled and administered by the member institutions and would link them to a variety of service sources - - the SOLINET Data Center, OCLC, LC, and others."

MISSION

The mission of SOLINET is to develop and to provide services for libraries through advanced technology. The services are to be appropriate to the SOLINET membership, compatible with national library networks, and provided at reasonable cost.

Fiscal Support Principles

(a) SOLINET shall remain a non-profit organization.

(b) Support is viewed as a shared responsibility of the membership. Charges to the members shall be equitable and based upon services received.

(c) Whenever practicable, outside support to underwrite services, and to underwrite research and development for new services shall be sought from state, federal, and private foundation sources.

(d) Services shall be provided only on a cost-recoverable basis, and at competitive prices.

(e) Whenever feasible, cost-sharing agreements shall be made with other networks and agencies to plan, develop, and implement services.

(f) The program budgets shall be based upon appropriate long-range program plans and income projections.

(g) Fiscal reporting shall be complete in all respects that would be helpful to members' justification of changes to management.

Case Study 3: SOLINET Summary cont'd.

Organization

SOLINET is a non-profit corporation which operates out of Atlanta, Georgia. It has a Board of Directors which is responsible for planning on behalf of the SOLINET membership and for providing policy direction for the SOLINET staff.

The organization is as large as all of the UTLAS clients combined. By 1983 it expects to have 250 members using approximately 700 OCLC terminals.

CASE STUDY 4: WLN SUMMARY

A. Organizational Structure of WLN

There is a ten year history of various state-wide library co-operative projects before the Washington State Library Network was created through state legislation in February 1976. WLN is an exception to the general U.S. library network model of stand-alone, non-profit corporations.

The Washington State Library played the central role in all of this development and retains the responsibility for administering both the Washington Library Network and one of its components the WLN Computer System. The State Librarian is the Executive Officer of the WLN.

The "management responsibility" for operating both the Washington Library Network and the Washington State Library is vested

Case Study 4: WLN Summary

Organizational Structure of WLN cont'd.

in the Washington State Library Commission, which is appointed by the governor.

WLN, as a State Library operation, is a common model for state-wide public library services in the U.S. WLN is unique in at least two aspects: (1) the comprehensive legislation which specifically established the Washington Library Network, and (2) the creation and development of the on-line WLN Computer System. British Columbia, of course, lacks a similar library agency as the Washington State Library which has such a comprehensive mandate.

The Washington Library Network has an advisory structure which is separate from that created for the State Library. The Advisory Structure for WLN consists of the WLN Executive Council, the WLN Representative Assembly, and various Committees. In pattern it looks very much like the BCUC Committees structure.

Like the relationship of RLIN to RLG, the on-line WLN Computer System (which was put into operation in July 1977) is only one component of the Washington Library Network. In fact, WLN (the acronym) is often used to refer only to the WLN Computer System component. This has created confusion in the minds of many out-of-state students of WLN. This confusion is abetted by the use of WLN in these two meanings in various documents produced by WLN.

Case Study 4: WLN Summary cont'd.

B. Components of WLN:

The Washinton Library Network is defined in the legislation as consisting of four components:

1. Interlibrary Systems:-

   Which is defined as a co-operative, or agreements among libraries, library systems, and/or related organizations and institutions crossing jurisdictional, institutional, and/or political boundaries to provide a common enterprise for mutual benefits. This rubric includes the various interlibrary loan agreements and protocols.

2. Reference and Referral Systems:-

   Pertains to procedures among libraries whereby subject or fact-oriented queries may be referred to another institution when the answering resource or subject expertise is unavailable in the institution originally queried. This system includes designated "resource centers" such as the State Library which, because of their breadth and/or depth of resources, are contracted to provide a service to libraries in differing jurisdictions.

3. Telecommunications Systems:-

   Includes any point to point transmission, emission, or reception of signs, signals, writing, images, and sounds. An example of such a system is SCAN: the State Area Controlled Network which includes 77 Washington libraries using a common telephone system for Interlibrary Loans.

Case Study 4: WLN Summary

Components of WLN cont'd.

4. WLN Computer System:-

Means the communication facilities, computers, and peripheral computer devices supporting the automated library system developed by the State of Washington. The on-line WLN Computer System is that part of WLN which BCUC is considering for purchase and replication. In point of fact, only the WLN Computer System source code software would be purchased under license, together with the bibliographic and authority records data base.

C. Management of the WLN Computer System

An important observation is that the set of libraries who are members of the Washington Library Network is not the same set of libraries who are users of the WLN Computer System. This has had far reaching consequences. In order to attain economic viability, the WLN Computer System has had to seek user libraries outside the State of Washington - - - who in the definition of the legislation, are not members of the Washington Library Network, and who are not presently represented in the Advisory Structure for the Network. This situation is analogous to the previously summarized situation of RLIN and RLG, where over 90 libraries are users of the RLIN System but are not members of RLG.

The fact that many WLN member Libraries in the State of Washinton have chosen not to use the WLN Computer System, has forced the managers of the Computer System to seek paying client libraries in the geographic area served by the Pacific Northwest Bibliographic Centre.

Management of the WLN Computer System cont'd.

In fact, the PNBC has played a primary role in vending WLN Computer System services to out-of-state client libraries. PNBC is a separate organizational entity from WLN but is defined in the legislation for WLN under the category of "Service Center". In fact, PNBC has shared a marketing and client service responsibility with the network services staff of the WLN Computer System who are employees of the Washington State Library.

This confusing jurisdictional alphabet soup is typical of the North American Library Networking environment. Inevitably, it seems, the network computer system extends its reach and services outside the political, and governance boundaries set by its owning library network group.

WLN is presently involved in modifying its advisory structure in order to accommodate its out-of-state library clients who are using the WLN Computer System. As of mid-1979, the management organization of the WLN Computer System has been changed. The general Manager of the WLN Computer System now reports administratively to the Associate Director of Services, who in turn reports to the State Librarian (who, it will be remembered, is the Executive Officer of the Washington Library Network). This is probably not the last change in the management structure of the WLN Computer System because it is still undergoing rapid growth outside the State of Washington in the Pacific Northwest (consisting of the states of Alaska, Idaho, Montana, and Oregon in addition to Washington).

The WLN Computer System is loaded onto a shared computer facility at Washington State University in Pullman. However, the

Case Study 4: WLN Summary

Management of the WLN Computer System cont'd.

technical staff of approximately 11 FTE are in the process of being moved to the State Library in Olympia, Washington.

The other computer network services staff for the client libraries are carried within the State Library budget and receive support in the form of operating grants to the State Library for its network development and implementation.

D. Funding of the WLN Computer System

In addition to the operating grants made directly to the Washington State Library, the Computer System is also supported by a revolving fund which is appropriated by the State Legislature and administered by the Washington State Library Commission.

The Commission together with the Washington State Data Processing Authority have, joint responsibility for establishing and adjusting the schedule of user fees.

Since July 1979, the WLN Computer System has been required to recover all costs of operation which come under the revolving fund via the schedule of fees paid for services by the user libraries.

In addition, the further developmental costs and ongoing research costs are also covered by grants from many sources such as interstate agencies, the Council of Library Resources, and other federal grants.

The important point to be made here is that because the WLN Computer System has a small library client base relative to such network

Case Study 4: WLN Summary

Funding of the WLN Computer System cont'd.

systems as OCLC and UTLAS, the full costs of development and operation are still not recovered via its client libraries' fee base. The system still does not have internal resources to generate all of its needed funding. This same situation also applies to RLIN which under its Director Ed Shaw, has also generated several million dollars for research and development via the grants route.

The question of funding and economic viability is a complex one. This is the area of central concern being addressed in the BCUC Replication Feasibility Substudy.

E. WLN Computer System Historical Costs Summary

	Source of Funds (& Period)	Development Costs	Operational Costs	Total Costs
a.	July 1971 - June 1975			
	State Funds	1,277,450	642,414	1,919,864
	Other (Incld. Federal)	30,000	356,408	386,408
b.	July 1975 - June 1977	2,287,571	639,775	2,927,346
c.	Totals through June 1977	3,595,021	1,638,597	5,233,618

WLN Objectives and Goals

The WLN Computer System is only one component of the Washington Library Network. The computer service utility is meant to serve the programs of WLN just as RLIN serves the programs of RLG.

The purpose of WLN is contained in the rules and regulations adopted by the Washington State Library Commission

Case Study 4: WLN Summary

WLN Objectives and Goals cont'd.

WAC 304-25-020 Purpose

(1) The following rules and regulations are adopted for the purpose of establishing procedures whereby libraries and related institutions and organizations can cooperate and coordinate library/information services to benefit the residents of the state.

(2) The Network shall provide for, but not be limited to, the processing, storing, transferring and sharing of information and resources to meet the needs of libraries and their present and potential users.

(3) The Network, through designated Resource Centers, shall make available resources to respond to the library/information needs of the state's residents.

(NOTE: WLN purpose refers only to the State of Washington's residents needs.)

More detailed purpose, mission, goals and objectives of WLN must be inferred from those stated for the Washington State Library which has administrative responsibility for the Washington Library Network. Its Goal 2 stated for the 1979-81 Biennial Budget is as follows:

Case Study 4: WLN Summary

WLN Objectives and Goals cont'd.

Goal 2: Develop an ongoing network of library services within the State

a. Expand the capabilities of the Washington Library Network including:

1. A pattern of sharing of library resources throughout the State.
2. The expansion of the capabilities and the utilization of the computer system.
3. An up-to-date telecommunications program among libraries.

b. Interact with regional and national activities, so the state-wide network activities are compatible with activities at these levels.

c. Establish financial stability of the WLN Computer System.

An editorial note repeated here is that establishing the financial stability of the WLN Computer System may be in conflict with the stated concentration on state-wide goals and objectives.

CASE STUDY 5: UTLAS SUMMARY

Governance Structure

The University of Toronto Library Automation Systems was established in 1971, being derived from the University Library's Systems Department. In origin it is very similar to BALLOTS: but its direction of development and policy has been clearly aimed toward the corporate model of OCLC, Inc. The on-line cataloguing support system (known as CATSS) was inaugerated in September 1973.

In 1978, UTLAS was removed as an administrative responsibility of the University Library. UTLAS was set-up as an Ancillary Enterprise of the University of Toronto. As an Ancillary Enterprise it was governed by policy and fiscal directives relating to the University's ancillary operations (such as the University of Toronto Press), which are approved from time to time by the University's Governing Council. The administration of ancillary policies including, but not restricted to contracts, investment, borrowing authority, and pricing, was until mid-1979, vested in the Vice President, Business Affairs of the University of Toronto. Business matters for UTLAS were often referred to the Business Affairs Committee of the University's Governing Council.

In the spring of 1979, the University of Toronto established a Board of Directors for UTLAS. This change in governance was not well publicized among UTLAS user libraries; and little information has been made available about this change. The University appears to have selected about ten Board Members from the Toronto area who represent a broad background of experience and expertise in such areas as data communications, finance, law, etc. The University President, the Director of UTLAS, and the Chief Librarian of UT also sit on this Board of Directors which met for the first time in July 1979.

Case Study 5: UTLAS Summary

Governance Structure cont'd.

This change of UTLAS governance would appear to represent a maturing of the organization and a step in the right direction as concerns governance and management of UTLAS. However, the present UTLAS governance structure still lacks representation from its user library stakeholders. UTLAS has continued to maintain that its user libraries' interests are adequately considered as part of its Marketing Services activity. This flies against the experience and development of all the other library network utilities now in operation. I believe that UTLAS requires a network advisory structure similar to that provided for OCLC, Inc. in its reorganization plan. This has been a source of serious concern on the part of UTLAS's two major consortium user groups: UNICAT/TELECAT and BCUC.

Finance

Next to OCLC, Inc., UTLAS has been the most successful of the bibliographic utilities in increasing its clientele and sources of income. As an Ancillary Enterprise of the University of Toronto it is able to finance its capital requirements with reasonably low interest loans from the University. Income from the charges for services and products appears to be more than adequate to service the UTLAS debts and provide working capital for ongoing operations. UTLAS has not, to date, produced any public financial documents. This may change in the future under the new reporting requirements for the Board of Directors.

Case Study 5: UTLAS Summary cont'd.

Organization and Management

The UTLAS organization is old enough and large enough to have real depth in its managers and technical staff. The organization has been modified over the last two years to accommodate its growth.

CASE STUDY 6: CCBD SUMMARY

The Centennial College Bibliocentre was originally founded under its own charter as the College of Applied Arts Bibliographic Centre (or College Bibliocentre for short) in April 1968. It was initially located and administered at the Ryerson Polytechnical Institute. It was mandated to provide centralized library technical services processing for the Ontario Community Colleges. In 1969, the College Bibliocentre was moved to Centennial College where it is presently a Division of Centennial College.

During 1971, an automated batch Acquisitions/Accounting System was put into operation locally. In 1974, the College Bibliocentre contracted for cataloguing support services from UTLAS. In 1975, serious financial problems resulted in the Committee of College Presidents asking Centennial College to take full management responsibility for its operation. Accordingly its name was changed to the Bibliocentre Division of Centennial College in April 1975.

Case Study 6: CCBD Summary cont'd.

Objectives of CCBD:

1. To act on behalf of the participating Colleges as the central processing and cataloguing unit for all College resource book and non-book materials.

2. To act, as requested, as the central acquisition unit for book and non-book materials required for resource centres.

3. To ensure that the Bibliocentre data bases are structured and information is retrievable to meet the information needs of the Colleges.

4. To act in consultation with the appropriate staff at the Ministry of Colleges and Universities as a publisher/distributor of College-produced learning packages establishing copyright wherever necessary.

Management of CCBD

Management comes under the Centennial College Vice President for Administration, and operates in an innovative matrix management environment with various project leaders and teams which are coordinated by an overall project leader.

Consultative Board

The Executive Committee of the Committee of Librarians of the Community Colleges of Ontario serves as a Users' Advisory Group of the Bibliocentre.

Case Study 6: CCBD Summary cont'd.

Membership

20 of 22 community colleges of Applied Arts and Technology, covering 104 campus libraries plus Ryerson Polytechnical Institute.

Financing

The Bibliocentre does not charge its members for services. Rather, it receives budget support directly through the budget submissions and allocations of Centennial College. Budget support for 1977/78: $1,346,500.

Replication of DOBIS

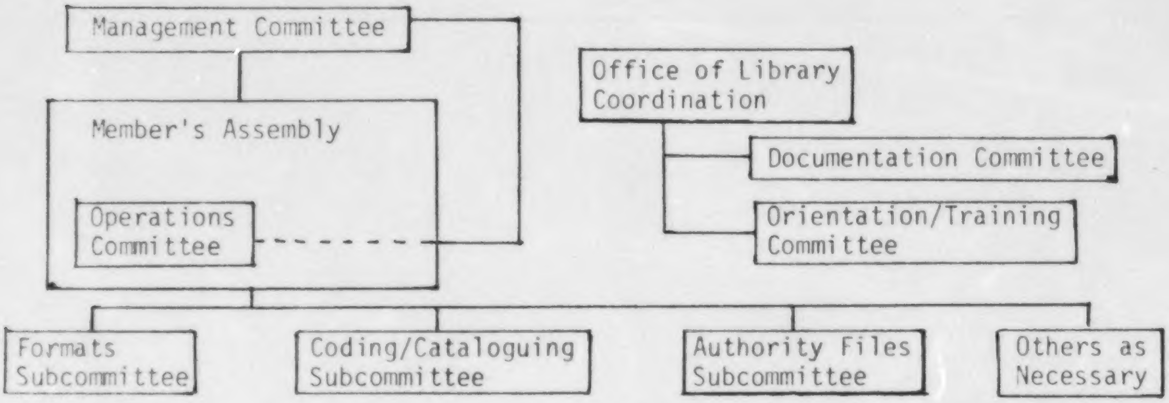
During 1979, CCBD replicated a version of the DOBIS system for its cataloguing support. At the same time the DOBIS-LIBRIS system was to be installed as a pilot project at Ryerson Polytechnical Institute to provide circulation-enquiry support.

CCBD is of interest to BCUC because it began with using UTLAS services and then moved to replicate an online cataloguing support system. CCBD is also interesting because the library network management is a responsibility of the Centennial College of Applied Arts and Technology. This is analogous to BCUC Project Office being placed into Vancouver Community College as a Division of that College.

CASE STUDY 7: UNICAT/TELECAT

The Union Catalogue Project operates within the institutional framework of the Council of Ontario Universities. UNICAT/TELECAT is a network within a network, neither of whose members entirely overlap with the other. UNICAT/TELECAT has its own organizational structure; but it is administered as a project of the Ontario Universities' Library Cooperative System, which is a network of Ontario University Libraries only. UNICAT/TELECAT was established as a project in 1973, and has served as the most familiar model in the establishment of the B.C. Union Catalogue Project.

UNICAT/TELECAT Organization Chart (February 1977)


Management Committee
Member's Assembly
Operations Committee
Office of Library Coordination
Documentation Committee
Orientation/Training Committee
Formats Subcommittee
Coding/Cataloguing Subcommittee
Authority Files Subcommittee
Others as Necessary

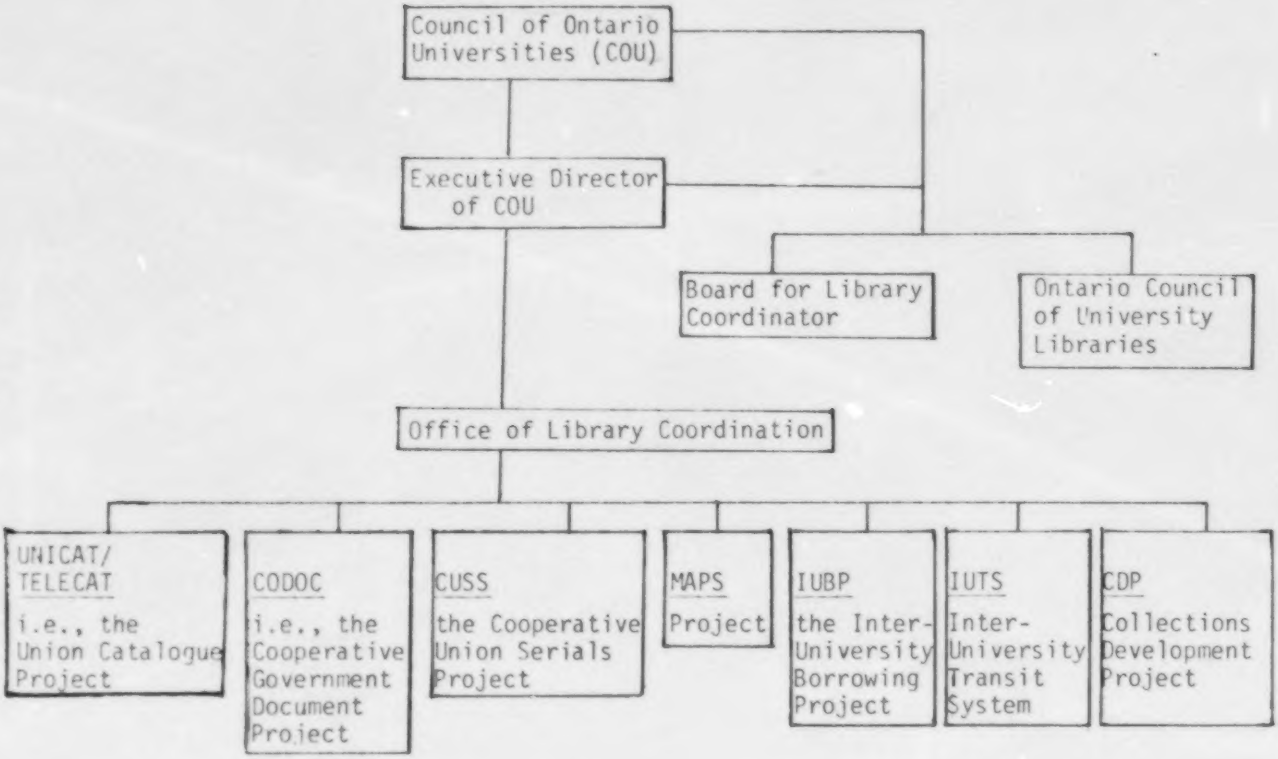
UNICAT/TELECAT's membership extends to all types of libraries (including special, government and public as well as university) primarily in the Provinces of Ontario and Quebec. UTLAS-CATSS is the contracting bibliographic utility used by UNICAT/TELECAT. It's Management Committee

Case Study 7: UNICAT/TELECAT Summary cont'd.

is made up of the Directors of all of the member Libraries. It's Operations Committee functions as an executive and coordinating committee of the Member's Assembly which consists of many delegates from all of the member libraries. The bibliographic records in the UNICAT/TELECAT file are bilingual. Since initial start-up funding, the Project has been self-financing. Except that the executive-secretary and network services functions are performed by the Office of Library Coordination which has a budgetary support separate from the UNICAT/TELECAT cost centre supported by its members. However, from another point of view, UNICAT/TELECAT is only one project in a series of projects which are mounted by the Ontario Universities' Network which is named the Ontario Universitites' Library Cooperative System, an umbrella name given to those libraries participating in various cooperative projects with the objective of attaining certain agreed to goals -----

Case Study 7: UNICAT/TELECAT Summary cont'd.

Organizational Structure of the Ontario Universities' Library Cooperative System


Council of Ontario Universities (COU)
Executive Director of COU
Board for Library Coordinator
Ontario Council of University Libraries
Office of Library Coordination
UNICAT/TELECAT i.e., the Union Catalogue Project
CODOC i.e., the Cooperative Government Document Project
CUSS the Cooperative Union Serials Project
MAPS Project
IUBP the Inter-University Borrowing Project
IUTS Inter-University Transit System
CDP Collections Development Project

Note: Each Cooperative Project has a different but partially overlapping set of Member Libraries. Only UNICAT/TELECAT has extended its membership outside of the set of possible University Libraries of Ontario.

Case Study 7: UNICAT/TELECAT Summary cont'd.

OULCS (the Ontario Universities Library Cooperative System) thus finds itself in the unenviable position of managing what amounts to seven separate library networks.

GOALS of OULCS

1. To provide more and better information services to users of libraries.

2. To provide the means for sharing research resources more extensively.

3. To rationalize collections development on a cooperative basis.

4. To rationalize methods of processing research resources and funds spent for processing.

GOALS of UNICAT/TELECAT

No goals, separate from the OULCS goals statement were found in the literature of UNICAT/TELECAT. However, the Monographs Demonstration Project which led to the establishment of UNICAT/TELECAT listed the following five main objectives:

1. to establish that an automated, on-line, cataloguing support system is practical within the Ontario University library community;

2. to provide superior cataloguing support services which should include:
    a. access to files of machine-readable bibliographic source material previously unavailable on-line;

Case Stuy 7: UNICAT/TELECAT Summary

Goals of UNICAT/TELECAT cont'd.

2. b. access to a union file of records from all participants;

   c. the ability to produce catalogue cards or bock catalogues mechanically;

   d. the ability to produce associated products such as book-cards, labels, etc. mechanically;

3. to provide the above mentioned services at a significant and provable cost reduction;

4. to eliminate duplication of cataloguing activity and make better use of professional cataloguing expertise at each university.

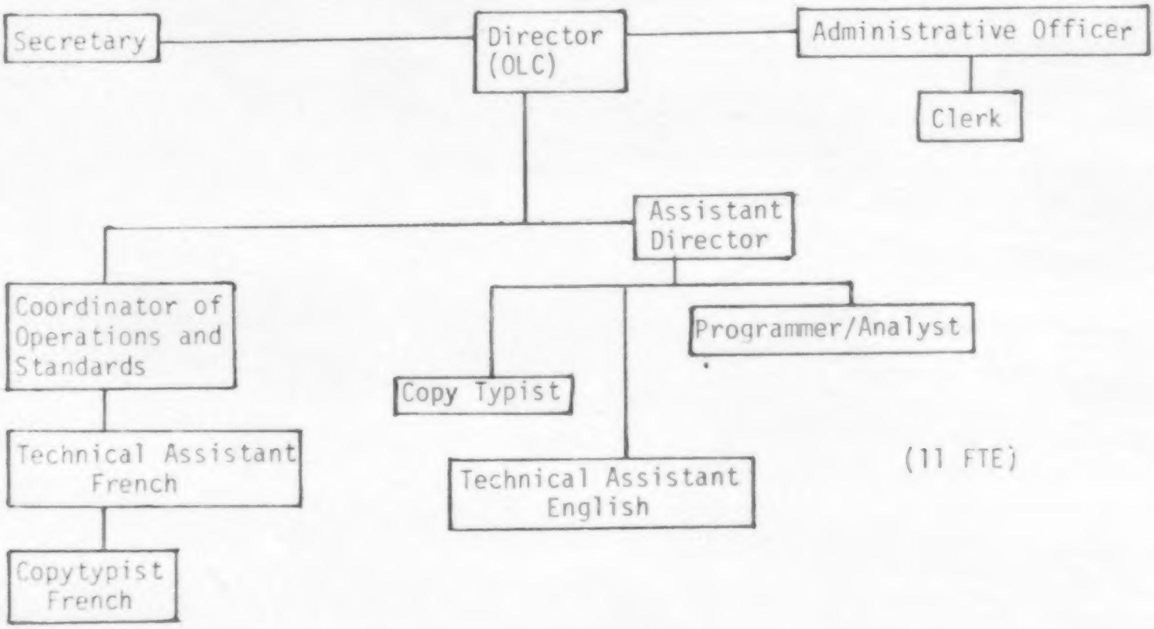
5. to create a union catalogue providing increased capability for rationalization of collections and cooperative university programme development.

Case Study 7: UNICAT/TELECAT Summary cont'd.

Office of Library Coordination (OLC) Organization Chart

The Office of Library Coordination is a staff support organization provided to coordinate and provide support for the various library projects and programs of the Council of Ontario Universities. Its organization is as follows:

O L C


Secretary
Director (OLC)
Administrative Officer
Clerk
Assistant Director
Coordinator of Operations and Standards
Programmer/Analyst
Copy Typist
Technical Assistant French
Technical Assistant English
Copytypist French
(11 FTE)

A great deal of space has been devoted to explaining the UNICAT/TELECAT Project because it was the model most closely regarded when BCUC was established. It helps to explain some of the organizational setting for BCUC with respect to various B.C. Library Projects which have

Case Study 7: UNICAT/TELECAT Summary cont'd.

been placed under the umbrella of the B.C. Management Advisory Council by the Ministry of Education, Science, and Technology.

As of mid-1979, the Office of Library Coordination was investigating the feasibility of moving out of its Council of Ontario Universities' Institutional setting by establishing UNICAT/TELECAT as a stand-alone, non-profit corporation modled after various U.S. regional library networks. In addition OLC is also examining the feasibility of replicating the DOBIS Computer System to serve its network member libraries, rather than contracting to UTLAS.

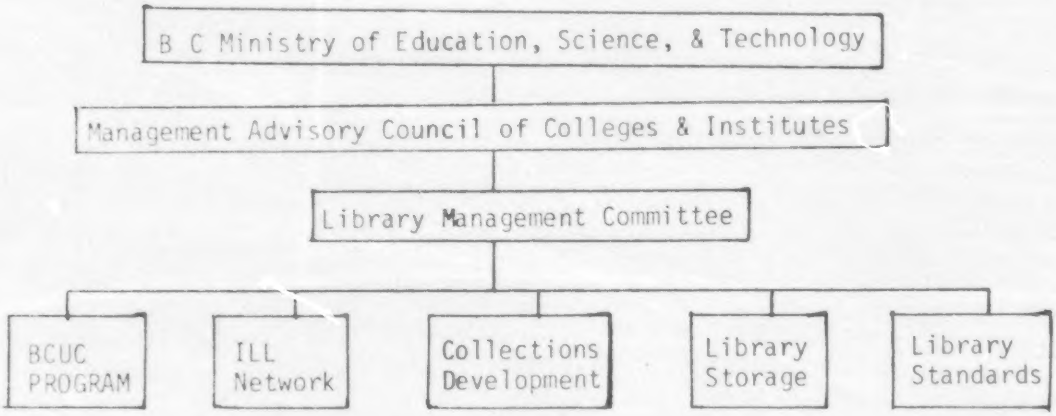
BCUC GOVERNANCE AND MANAGEMENT

The B C Union Catalogue Project was initiated in September 1977. It was only one of a number of library projects established by the Ministry of Education as a result of recommendations made by the Stubbs-Carter Report (9) and also by the Educational Library Advisory Committee established in February 1977, by the Deputy Minister of Education. These separately funded and separately managed projects included BCUC, the B C Educational Libraries Inter-library Loans Network, and a B C Colleges and Institutes Collections Development Project. The latter two were allocated as an administrative responsibility to Basil Stuart-Stubbs and Ross Carter, the authors of the Stubbs-Carter Report. Later when these library projects were moved under the newly created B C Management Advisory Council (fall 1978) several more independently run projects were added: a B C Educational Libraries' Storage Facility Project and the Colleges and Institutes Library Standards Project. The Management

BCUC Governance and Management cont'd.

Advisory Council created a committee: The Library Management Committee, to provide management overview of these separate library projects. The LMC includes in its membership: 3 MAC members, the Ministry's Consultant on Libraries who is also the Executive Secretary for MAC, and a representative from the Universities Council. The management structure for BCUC and the other library projects was organized as follows:

Management Structure of the BCUC Program:

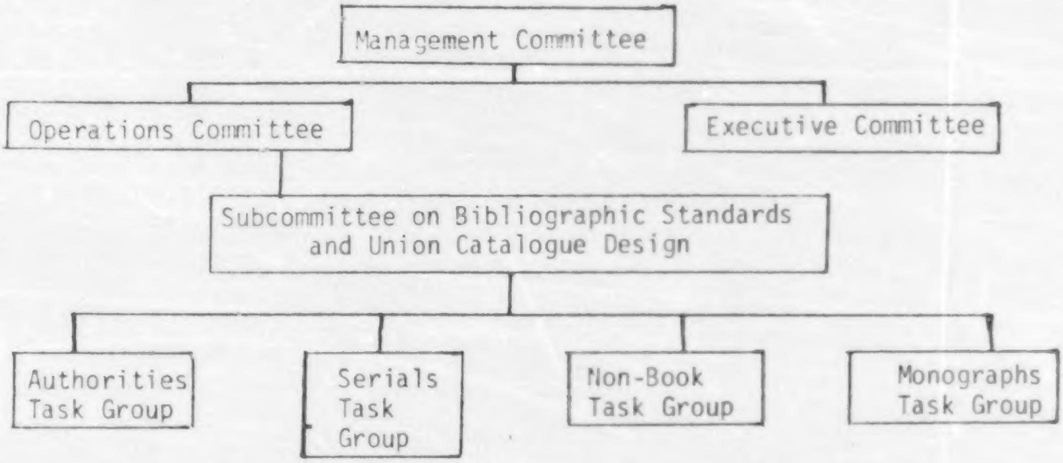

B C Ministry of Education, Science, & Technology
Management Advisory Council of Colleges & Institutes
Library Management Committee
BCUC PROGRAM
ILL Network
Collections Development
Library Storage
Library Standards

In November 1979, the BCUC Central Office was moved, at the request of the Deputy Minister of Education, into Vancouver Community College where it presently resides as an academic department. The BCUC Program and budget review is still a management responsibility of the B C Management Advisory Council. The BCUC Central Office is now a management responsibility of Vancouver Community College. This very much resembles the arrangements made for the Centennial College Bibliocentre Division described in Case Study #6

BCUC Governance and Management cont'd.

Since its inception in September 1977, the B C Union Catalogue has also had a member library advisory structure made up of representatives from all of its participating libraries. This structure is analogous to the cooperative library advisory structures which exist in all other library networks described in the case studies (except UTLAS). It may be diagramed as follows:

BCUC 'Network Governance Structure'


Management Committee
Operations Committee
Executive Committee
Subcommittee on Bibliographic Standards and Union Catalogue Design
Authorities Task Group
Serials Task Group
Non-Book Task Group
Monographs Task Group

BCUC Mandate and Governance

The B C Union Catalogue was not established as a comprehensive library network. Other library network-type functions were vested in the separately funded and managed projects mentioned above. This situation is quite analogous to the creation of UNICAT/TELECAT as one project of the Office of Library Coordination of the Council of Ontario

BCUC Mandate and Governance cont'd.

Universities. However, in BCUC's case, the project was placed under the B C Management Advisory Council for Colleges and Institutes, rather than the Universities Council. Like UNICAT/TELECAT, BCUC has extended its library membership to libraries in B C who do not come under the jurisdiction of the Ministry of Education. Similarly, UNICAT/TELECAT includes more members who do not come under the jurisdiction of the Ministry for Universities than those which do. Many members reside out of Ontario in Quebec and include in both provinces: public, federal, and other special libraries. BCUC now includes two public libraries, the B C Legislative Library, and a commercial firm which does cataloguing for a number of special libraries. As mentioned earlier, the management of the BCUC Central Office has been given by the Ministry to Vancouver Community College.

The scope of the B C Union Catalogue Project and its related activities have thus been limited to the task of producing a union catalogue to be used to support the educational mission of the Ministry's Department of Post-Secondary Education. The strategy adopted for the production of the union catalogue was the one suggested in a report done in 1975 for the Library Development Commission. This should not be surprising, two authors of that report, R.W. MacDonald of UBC Library and G.R. Campbell of UVic Library, were also active in the initiation and development of the B C Union Catalogue. (10)

Briefly, the idea was to have the BCUC member Libraries contract with a common bibliographic utility, UTLAS, for on-line, cataloguing-support services for all current and ongoing cataloguing. The B C Union Catalogue was thus meant to be a common machine-readable data file of bibliographic records produced as part of the routine cataloguing operations in each member library. In addition, the Ministry has provided

BCUC Mandate and Governance cont'd.

funding for two major activities of the B C Union Catalogue Program: the retrospective conversion of catalogue records (RECON) and the authorities file development project which has involved the retrospective conversion of the card authority files of the three BCUC university member libraries.

Broadening the BCUC Program

In March 1978, the BCUC subcommittee on Technical and Local Requirements determined an outline or framework in which future developments of BCUC were to be considered. These areas included the following:

1. Future developments should include all types of B.C. libraries, including academic, public, government and special libraries.

2. That the BCUC data base and the facility to access the data base should be resident in British Columbia.

3. That the B.C. library network consortium should eventually become a full service network including:

   a) the ability to interconnect with other library networks,
   b) provision of information regarding access methods, availability of library resources, and management information services,
   c) include more than just catalogue support; it should include acquisitions, circulation enquiry, serials, and the ability to switch to citation searching - - - - e.g., ORBIT or DIALOG.

Broadening the BCUC Program cont'd.

and lastly, that:

4. Consideration should be made regarding new uses of the catalogue for information retrieval services.

In October 1978, the recommendations of the March report listed above were acted upon by the BCUC Management Committee when it initiated the BCUC Replication Study. As mentioned at the beginning of this paper, the Replication Study looks towards the establishment of an on-line bibliographic utility in B.C. as a resident computer system and data base for the B C Union Catalogue. The system which was selected as best meeting the above considerations was the Washington Library Network Computer System.

The question which must now be addressed, is whether the present BCUC management and governance structures are adequate to accommodate a B C WLN-type computer system together with an expanded mandate for the BCUC Program. Up until the BCUC Replication Study, the focus for the BCUC Union Catalogue has been quite narrow and restrictive. I believe that this narrow focus has had the beneficial result of solid achievements. The narrowness of focus has concentrated the use of library resources to accomplish a number of related tasks: common implementation of CATSS by Member Libraries, RECON, authorities file development, definition and implementation of common bibliographic/coding standards for data input, closure of library card catalogues and their replacement with automated products, and production of the COM B C Union Catalogue. A broader, more comprehensive mandate may have resulted in the dissipation of library resources onto too many jobs with resultant too few accomplishments. This is a problem which has plagued other regional library networks which have not been as successful as those described in the case studies.

However, the WLN Computer System which BCUC is considering for replication has been designed and developed to serve a broad library network services program for the State of Washington. The WLN Computer System presently supports: cataloguing, acquisitions and union catalogue enquiry, as well as authorities control. It will shortly support the WLN-PNBC Inter-library loans network and interface with circulation-enquiry systems run on mini-computers. It has also defined the requirements for an on-line serials control module. All of the bibliographic utilities are being developed to support in a co-operative mode all of the traditional functions carried out by individual libraries. It therefore seems that consideration of BCUC Management and Governance must be placed in the context of a broadened set of goals and objectives which extend beyond cataloguing support and union catalogue activities. Once this has been done, then one may consider management and governance structures.

CONCLUSIONS FROM LIBRARY NETWORK CASE STUDIES

1. In Canada, bibliographic utilities have generally been created as a management responsibility within a pre-existing institutional framework; e.g.,:

    (a) The DOBIS development was a joint project managed by the National Library of Canada and the Canadian Institute for Scientific and Technical Information.

Conclusions from Library Network Case Studies cont'd.

(a) The Federal Library Information Network is initially a management responsibility of NLC and CISTI. Library Network governance is yet to be determined.

(b) UTLAS is managed as an ancillary enterprise of the University of Toronto. Library Network governance is regarded as not relevant by UTLAS. The UTLAS Marketing and Networks Services is expected to take care of this need.

(c) The College Bibliocentre failed as a separate chartered institution and was given as a management responsibility to Centennial College. A Librarians' Council operates as a network advisory structure; but many colleges have been unhappy with respect to this governance arrangement.

(d) UNICAT/TELECAT has been managed as a project of the Council of Ontario Universities' Office of Library Coordination. An adequate library network governance structure has been provided via a library committee structure after which the BCUC committee structure was modelled. I remain pessimistic about UNICAT/TELECAT leveraging itself into a stand alone, non-profit corporation according to the common U.S. model. The French and English halves still threaten to split assunder. The UNICAT/TELECAT federal libraries will in all likelihood be absorbed by the DOBIS Federal Library Network. Many of the Ontario University Libraries are considering establishment of separate files with

Conclusions from Library Network Case Studies cont'd.

(d) UTLAS outside of the union file. And lastly, the University of Toronto would not permit its own libraries to stop their use of UTLAS services and switch to a competing UNICAT/TELECAT DOBIS facility. A more likely event is the opening up of the UTLAS governance structure to UNICAT/TELECAT and other major network user groups as METRO TORONTO or even BCUC.

2. In the United States, the model of stand alone, non-profit corporations predominates for both bibliographic utilities and regional library network user groups. Nevertheless, this organizational model has not solved the library network governance problems which have been of even greater magnitude than those experienced within the institutional frameworks of Canadian library networks. Many U.S. library stakeholders believe that they do not yet have adequate input and control over the bibliographic utilities upon which they have become so dependent. Governance and management issues are still hotly debated in the U.S.

3. The drive for economic viability and survival by both Canadian and U.S. bibliographic utilities has inevitably placed them into conflict with the original mandates and the original management and governance structures within which they were created. This has resulted in an ongoing need to redefine goals, objectives, priorities, and management and governance structures of library networks and bibliographic utilities.

Lessons for BCUC

1. In replicating a WLN-type computer system in the province, BCUC goals and objectives should be modified to include the kinds of services which the computer facility will have to deliver to attain economic viability.

2. The management and institutional framework for BCUC as it currently exists is probably adequate to accommodate a replicated facility; just as has been done by the College Bibliocentre which recently replicated the IBM DOBIS Computer System; and as has been done so successfully with UTLAS as an ancillary enterprise of the University of Toronto.

3. However explicit recognition of the library stakeholders must be given in a governance structure for BCUC. And the "governance structure" must be plugged into its institutional management structure. This has not been done to-date. The current BCUC Committee Structure is not plugged into VCC or MAC.

4. There are a number of ways in which the BCUC stakeholder governance structure might be plugged into the management structure.

   I believe that the best way would be to establish a Board of Directors for the Replicated BCUC Computer System which reports to the VCC Council and also to MAC

   The BCUC Board of Directors should be an interlocking directorate of the VCC Council, M.O.E., MAC-LMC, and ex-officio BCUC Members:

Lessons for BCUC cont'd.

4. The BCUC Director as a non-voting member of the Board.
The Chairman of the BCUC Management Committee.
Some Directors who are appointed by the Ministry from the B C Community at large to represent skills and expertise in: finance, law, and computer technology.

An institutional setting as created by the Ministry of Education will have to be preserved in order to elicit the Ministry's continued support and good will.

MAJOR BIBLIOGRAPHIC UTILITIES GOVERNANCE STRUCTURE SUMMARY

	OCLC, Inc.	RLIN/RLG	UTLAS	WLN
Organizational Form & Management Structure	Non-Profit Corporation	Non-Profit Corporation	Institutional Setting: University Ancillary Enterprise	Government Agency
Management Body	OCLC Board of Directors	RLG BOARD of DIRECTORS	Vice President Admin. University Council Board of Directors (since mid-1979)	State Library Commission
Governance Library Advisory Structure	Members' Advisory Council Yes (1978)	RLG Board of Directors Yes (1978)	No (1979)	Members Assembly, etc. Yes (1976)

LIBRARY NETWORK USER GROUPS MANAGEMENT AND GOVERNANCE STRUCTURE

	SOLINET	UNICAT/ TELECAT	Bibliocentre Division	BCUC
Management Structure	Stand Alone Corporation Board of Directors	Institutional COU	Institutional: Centennial College	Institutional: VCC & MAC
Governance Structure	Advisory Committees & Seats on Board	Advisory Committees	Council of College Librarians	Advisory Committees

Comparative Statistics for the Major Bibliographic Utilities

		OCLC, Inc.	BALLOTS*	UTLAS	WLN
1.	Date founded	1967		1971	1976
2.	Date On-line System Up	1971	1972	1973	1977
3.	FTE Staff (1978)	317	30‡	70	13
4.	# Users (mid-1977)	1,229	105	210	10**
5.	Annual Budget (1978)	$18.4 million	$1.6 million	$2.5 million	$2.1 million
6.	# User Terminals (Je 77)	1,670	175	100	74
7.	Total Data Base Records (Je 77)	3.08 million	1.07 million	.45 million#	.9 million

* See the section of this report on RLIN/RLG; BALLOTS was purchased by RLG in October 1978, and was renamed RLIN.

** As of September 1979, there were only 53 Principal Members of WLN: i.e., member libraries actually using the WLN on-line computer system. However there were 173 Libraries who were members of the Washington Library Network as early as mid-1977, only 10 were actually using the system at that time.

# This represents on-line records; the rest are stored off-line; this number changed dramatically during 1978 as more storage capacity was installed.

‡ ARLIN Facility Central Staff was 65 FTE as of June 1979.

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(4) Williams, James G. and Flynn, Roger: "Network Topology: Functions of Existing Networks." *Op. cit.*, p.49-83

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(6) Mathews, William D.: "The Impact of Technology on the Governance of Library Networks." *Op. cit.*, p.132

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(9) Stuart-Stubbs, Basil and Carter, Ross : "Developing library service for post-secondary education in British Columbia. "August, 1976"

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Attachment B contains the October 6, 1976, Washington State Library Commission's Rules and Regulations for Implementation of WLN together with its organizational structure.

Appendix A
October, 1979
P. i

BCUC Replication Study Summary

Introduction:

This is a unique study which examines the feasibility and requirements for replicating the WLN Computer System and data base; and considers this option in comparison to BCUC continuing to contract for most of its computer services with the UTLAS-CATSS facility. The project management system of the Ministry of Education's Project Planning and Control Centre is being utilized for this study. The study is made up of several components as follows:

I Definition Phase: Feasibility Substudy

Status: In progress

Project Manager: Paul Baldwin, Director BCUC

Project Review Committee: Bob Campbell (University of Victoria); Bob Harris (Management Advisory Council/Ministry of Education); Ross Jewell (Computing Centre, Simon Fraser University); Jim Kennedy (Computing Centre, University of British Columbia); John Kuss (B.C. Systems Corporation); Bob MacDonald (Library, University of British Columbia); David Williams (Director of Libraries, Douglas College and Chairman, BCUC Management Committee).

Budget: Estimated 1,317 man hours; $50,000

Finish Date: Estimated January 1980

Study Outline:

A. Examination of the economic feasibility of replicating the WLN Computer System and Data Base.

B. Produce a comparative features analysis of UTLAS and WLN, including: general management, files security, records management, user instructions, batch services and products, RECON, searching, authorities control, acquisitions, serials, circulation enquiry and public access.

C. Produce a cost projection for QLN and UTLAS systems usage.

Study Outline cont'd.

D. Provide comprehensive data on the best system for meeting anticipated needs for support of other functions, including: acquisitions, serials, circulation and public access.

E. Provide recommendations on the alternatives, recognizing the above factors and other considerations for deciding on continuing with UTLAS or replicating the WLN Computer System.

F. Provide recommendations on the next steps to be considered.

II Design Phases of the BCUC Replication Study

Status: Pending the outcome of the Feasibility Substudy

A. Design Phase 1: Implementation Substudy on Computing Facility Requirements

Estimated 580 man hours. The design phase 1 will:

a) determine the hardware/software facilities required to operate the WLN computer system and data base.

b) determine the operational and maintenance staffing requirements.

c) describe the options for an operational site.

d) provide an implementation schedule with cost projections.

e) assess the maintainability of the WLN software and related software systems required for the WLN package.

f) provide recommendations on an approach to shared development of the WLN applications software to meet the preconditions of WLN replication.

g) provide recommendations on a telecommunications network, including alternatives for using existing equipment and communications as well as new facilities.

h) define responsibilities and relationships between BCUC and the contractor for the computing facility.

i) determine projected costs for implementation and operations of the computing facilities and operations staff.

A. Design Phase 1: cont'd.

j) identify pricing methods that might apply for computing facilities and staff for operations; and provide estimated or typical costs for operating a BC WLN-type facility.

B. Design Phase 2: Implementation Substudy on User and Data Base Requirements: Part 1:

Estimated at 1,065 man hours. The design phase, part 1 will:

a) determine requirements and approach for maintaining the central BCUC data base; central vs distributed responsibility and procedures, committees, etc.

b) identify and evaluate RECON service requirements for the BC WLN-type facility, applicable to existing and new participants.

c) identify variations in bibliographic standards and format specifications between existing BCUC data base and proposed WLN-type data base. Develop recommendations covering content and format; full level and RECON standards.

d) determine performance criteria for the computing facility contract, specifying response times, system availability, security, and other functional needs.

e) develop proposals for governance changes to the BCUC operation with establishment of a BC WLN-type computer system, considering types of libraries, institutional limitations of the management contract for the BCUC Office, multiple Provincial Ministries and any other factors impinging on governance.

C. Design Phase 2: Implementation Substudy on User and Data Base Requirements: Part 2:

Estimated man hours: 1,020 hours. This subproject part 2 will:

a) identify requirements for user orientation and training in terminal and data communications methods for a BC WLN-type facility. Examine available WLN documentation and training aids, and recommend modifications and plans for BCUC implementation and operations.

b) determine product specifications for existing BCUC products and develop plan and recommendations for coversion to a BC WLN-type facility.

C. Design Phase 2: Part 2 cont'd.

c) develop inventory of BCUC data bases and make recommendations on a plan for converting these from UTLAS to a BC WLN-type facility, including requirements for handling authority file development and modifications.

d) investigate potential and requirements for shared arrangements with other bibliographic utilities in addition to the WLN agreement, and make recommendations on contracts to be developed. This must include reporting requirements to NLC.

e) consider alternatives for data communication in conjunction with findings of the Substudy or Computing Facility Requirements, develop plan and recommendations for development of new support for communications and/or terminal requirements, and identify equipment procurement costs.

f) examine alternatives for pricing of BCUC products and services, develop comparative recovery schedules in respect to meeting the costs of computing resources consumed and providing incentives for participants' efficiency of use and maximizing sharing of resources. Recommend an approach and plan for the pricing of products and services provided by the BC WLN-type facility.

D. Implementation Phase

Actual implementation start-up should precede the installation of the system to provide for some staff appointments, data base conversion and other prepatory steps. The implementation phase would require up to one calendar year to complete before all BCUC users were transferred and user files shifted from UTLAS to the BC WLN-type facility.